Clinical Lectures
ON THE
NERVOUS MIMICRY OF ORGANIC DISEASES,

Delivered at St. Bartholomew's Hospital,

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LECTURE I.

GENTLEMEN,—A group of cases of great practical importance is distinguished by this fact: that a nervous disorder produces an imitation or mimicry of organic local disease. In some of these cases the mimicry occurs without any substantial disease whatever; in others it gives features of extreme severity to a disease which, in a normal condition of the nervous system, would be trivial or unfelt.

Much has been written on this subject—much that is good; but, if I may judge from the difficulties still often found in discriminating between the real and the mimic in diseases, there is need of writing more.

Cases of this kind are commonly included under the name Hysteria; but in many of them none of the distinctive signs of hysteria are ever observed, and from all of them it is desirable that this name should be abolished. For it is absurdly derived, and, being often used as a term of reproach, is worse than absurd. To call a patient hysterical is taken by many people as meaning that she is silly, or shamming, or could get well if she pleased; and no doubt there are patients of whom some of these things may be fairly said; but in many more, hysteria, especially in the form of an unwilling imitation of organic disease, is a serious affection, making life useless and unhappy and not rarely shortening it.

At any rate, let us, if we can, discard the name of hysteria from surgery. If it is to be retained at all, it may be for the cases of patients with hysterical convulsions and sense of suffocation, with the abdominal flatulence, the nervous urinary secretion, and those other associated signs of nervous disorder which are not imitations of other diseases, and are not themselves imitated. These are characteristic enough to deserve a distinct name, and hysteria will serve, at least as well as hypochondriasis and melancholy do for what they signify. But the characters of nervous mimicry are also distinct enough to make a separate group with another name. In English we may speak of nervous mimicry; in untranslated Greek, of neuromimesis. To patients and their friends the maladies may be said to be due to extreme nervous sensibility; or, if they also prefer Greek, we may call them hyperneurotic;—anything but hysterical.

The chief practical interest of these cases is in the diagnosis between them and the organic diseases imitated by them; and as it is only in clinical study, and on clinical grounds, that they can be grouped, so I shall keep to a clinical view of them, and shall speak of their pathology only as subservient to their diagnosis. I am the more content to do this because, in Dr. Russell Reynolds's essay on Hysteria in his "System of Medicine," and in Dr. Anstie's lectures on it in THE LANCET, you may easily find the whole subject recently and accurately taught. Indeed, if it were not that I may treat the surgical part of the subject more fully than they, I should not have seen room or occasion to lecture on it at all.

Now, there is scarcely a local organic disease of invisible structures which may not be mimicked by nervous disorder. You hear of hysteric cough and hysteric aphonia, of hysteric dyspepsia and paralysis, of hysteric joints and spines; and there is scarcely any of these disorders in which the mimicry of real diseases is not, sometimes, so close as to make the diagnosis very difficult.

The means for diagnosis are to be sought—(1) in what may be regarded as the predisposition—the general condition of the nervous system on which, as on a predisposing constitution, the nervous mimicry of disease is founded; (2) in the events by which, as by exciting causes, the mimicry may be evoked or localised; (3) in the local symptoms of each case. And I shall speak of these things in this order; though it is the wrong order for the actual study of a case. In every clinical study, the examination of the present disease should precede that of its probable causes; though for lectures and reading the reverse order is usually the better.

First, then, as to the general condition of the nervous system which disposes to mimicry of local disease. In all well-marked instances there is some prominence and apparent excess of nervous action, leading to the general expression of the patient's being nervous or of nervous constitution. Neuromimesis cannot be found in all persons alike, or in any person at all times. It may be regarded as a localised manifestation of a certain constitution; localised, that is, in the same meaning as we have when we speak of the local manifestation of gout or of syphilis, or of any other morbid constitution which we regard as something general or diffused, though distinct witness may be in only one or more parts. And the nervous constitution, like others, is inherited in different degrees of completeness or intensity; and may, like others, become less or more complete or intense according to the conditions in which it has to live.

As to what is, verily, the peculiarity of the nervous constitution, I believe we have nothing fit to be called knowledge. It is even hard to give fit names to what we may suppose it to be. We may speak of the nervous centres as being too alert, or too highly charged with nerve-force; too swift in mutual influence; or too delicately adjusted, or defectively balanced. But expressions such as these, or others that I see used, may be misguiding. It is better for us to study the nervous constitution in clinical facts; and the life of almost any patient with very marked nervous mimicry will supply materials for the study. I have, indeed, seen a few in whom I could find no other nervous error than the present mimicry of some disease. But in the great majority there is either history or present evidence of a characteristic nervous constitution such as may serve towards diagnosis. Some have been, or are even now, truly hysterical: subject to fits of irrepressible laughing, crying, or sobbing; or to convulsions of various hysteric kinds. But you will find nervous mimicry in very many who have never been hysterical. In some the sensibility is always too keen, whether for pain or pleasure. In these the pain of an injury is much more severe than what we may suppose to be the proper average of pain producible by that injury: it lasts longer; outliving all the other consequences of the injury. And, as to pleasure, as a patient said to me, who suffered what she called tortures from ordinary sources of moderate pain, "the pleasure of music is an agony." But not all have this compensation of feeling pleasure as keen as pain: for many are habitually neuralgic; they suffer with headaches, dartings in limbs, still more often with spine-aches and the like, and are, as one may say, very painful persons, altogether hyperneurotic in their relations to pain, but not to pleasure. In some of these patients, again, the mutual influences of the mind and body are too active: if they have ever fainted or vomited, for instance, the recollection of the circumstances in which they did so makes them faint or sick again. In some, all impressions are too widely and vehemently reflected: the irritant that healthy people bear unobserved produces convulsions, or some other seeming serious disturbance. An intestinal worm, for instance, which some patients would not feel, might in these produce the signs of all manner of diseases. And some have already had mimicries of various other organic diseases, and will tell of all the sensation-signs of these diseases, without having a single mark of any organic change produced by them: as if their lives had been a constant war with diseases from which they had escaped unscarred.

One of the most frequent conditions in those in whom the nervous mimicries occur is a singular readiness to be painfully fatigued by slight exertion. This is most marked in those with spinal neuromimesis, but may be found in many more; and in some is the most marked sign of the erroneous state of the nervous system. To most of us the sense of fatigue produced by even excessive exercise is scarcely distressing: only a great excess, tending to exhaustion, would

be felt as really painful; and the worst is soon relieved by rest. But these nervous patients become utterly fatigued in even slight exercise, and their limbs and their backs, though they may look muscular and strong, ache horribly and very long; so that, not rarely, the attempt at more than usual exercise is followed by great suffering, by sleepless nights, and sometimes by nausea and vomiting. Their sensations are like those of the painful fatigue which convalescents from acute disease feel after doing too much; but I believe there is never attendant fever such as convalescents in their state usually have: the likeness is only in sensation.

Some or all of these, and of other forms of defect, or error, or turbulence—call it what you will—of the nervous system, you will nearly always find or hear of in patients with nervous mimicries; and in any study of a case these conditions or their absence may add to the grounds for diagnosis. But it is, I think, a fact of singular interest that, in even the most turbulent of these nervous systems, the disturbance very rarely takes the form in which morbid nervous influence produces, not mimic, but real organic changes. Of the things imitated hardly one is ever realised. I have not yet seen in any hysterical or neuromimetic patient an instance of herpes zona; not even in those who have suffered long with that infra-mammary pain which is not far unlike the neuralgia commonly preceding the eruption. I have not seen an instance of rheumatoid stiffening of joints, like that which sometimes ensues in disease of the spinal marrow, even in the most tedious of neurotic joints; nor one of the glossy fingers, or the eczema, or the centripetal wastings, or, in short, any of the organic diseases of peripheral parts which are associated with injuries or organic diseases of nerves or nervous centres. Neither are these patients particularly liable to any forms of fever or of blood-poisoning; they incur as little risk from operations as any class of healthy persons. The fact—I think it is one—is important in both diagnosis and pathology; and it is not falsified, I believe, in any but a few ambiguous cases in which what seems a mimicry of disease of the spinal marrow passes into real disease, and leads to extreme wasting of the lower limbs and arrest of the growth of nails. The contrast is the more notable when we consider that the distribution of blood is, in many of the mimic cases, greatly affected. Heat and cold of the same part, rapidly succeeding one another, flushing and pallor, turgidity and collapse,—all these are frequent, striking, and capricious in the nervous mimicries; but after months and years of their occurrence, not one organic change may be discerned. You may find in our Hospital Reports the case of a gentleman who consulted me because, for several years, whenever he walked far or fast, his feet became cold, white, and numb—"dead," as they are called; and then, when he rested, they flushed red and hot and were turgid with blood, distending even the veins of the leg. Yet, after years of such disturbance, his feet were as healthy as any of yours.

But now, to add again to the grounds of diagnosis: it is seldom that patients with well-marked nervous mimicries have ordinary minds—such minds as we may think average, level, and evenly balanced. You may, indeed, find among them some common-place people, with dull, low-level minds; but, in the majority, there is something notable, good or bad, higher or lower, than the average—something outstanding or sunken. This something is, in different cases, so various that it is impossible to classify or even to enumerate the diversities. But be clear that these patients are not all silly, or fraudulent. Nothing can be more mischievous than a belief that mimicry of organic disease is to be found only or chiefly in the silly, selfish girls among whom it is commonly supposed that hysteria is rife or an almost natural state. It would be safer for you to believe that you are likely to meet with it among the very good, the very wise, and the most accomplished among women. But it will be safest if you believe only that, in any case of doubt whether a local disease be organic or nervous, it adds something to the probability of its being nervous if the patient has a very unusual mental character, especially if it be unusual in the predominance of its emotional part; so that under emotion, or with distracted attention, many things can be done or borne which, in the quieter mental state, are felt as if impossible or intolerable. And this probability of mimic rather than real disease will be much increased if the patient's mind be set, in a much more than the ordinary degree, upon the real or supposed disease. In all the well-marked cases of nervous mimicry, and in the less marked in only a less degree, the malady determines the general current of thought, and often of the whole life. Egotism has its keenest life at and about the supposed seat of disease. If the malady be not always uppermost in the thoughts, it seems always in an under-current, rising at every interval between the distractions of work or play.

The contrast of the mental states of those who have real and those who have imitated local diseases is often very striking and of great help in diagnosis. Few patients with real hip-disease or real spinal disease, for instance, think half so much about their ailments as they do whose nervous systems imitate those diseases. In this egotism they resemble hypochondriacs: yet commonly with a great mental difference, in that those with neuromimesis are not distressed with constant forebodings of greater mischief; they do not suspect that everything they feel is a token of something much worse than can be felt; rather, they are content and often almost happy in their afflictions. While the hypochondriacs are in a panic on account of some trivial aching, the neuromimetics will talk of their agonies with calm or smiling faces, or with half-closed quivering eyelids; sometimes, even, they seem well pleased or proud in the immensity of their ailments.

This egotism in relation to the imitated diseases gives to many patients an appearance of great wilfulness. Some, indeed, are very strong-willed; some are so for all the good designs in which they engage, and some with a thorough, almost diagnostic selfishness. But strong will is, I think, less common among these patients than is a want of will. Sometimes there is a general feebleness of will: the patients can do nothing for themselves; can trust themselves in nothing; but commit themselves to someone with a stronger will, and an appearance, if not a reality, of more knowledge. Hence, among these patients are the most numerous subjects of mesmerism, spiritualism, and the other supposed forces of which the chief evidence is the power of a strong will over a weak one. But more often you will find a feebleness or complete negation of will in reference to the supposed seat of disease, while towards other things the will is strong enough. You may find the strangest inconsistencies in this respect. A man who has intellect and will enough to manage a great business, or to travel with much inconvenience and write clever books, cannot will to endure sitting upright for ten minutes, or cannot distract his attention enough to be indifferent to an unmeaning ache in his back. A girl who has will enough in other things to rule the house has yet not will enough in regard to her limbs to walk a step with them, though they are as muscular as ever in her life. In will these patients are as those who are colour-blind. They say "I cannot"; it looks like "I will not;" but it is "I cannot will."

I think it is to this same weakness of will that we may attribute other things often observed in the worst cases of neuromimesis, especially the disposition of the patients to imitate or assume symptoms of disease that they have seen or heard of, such as the deformities of diseased joints, the lameness or paralysis associated with spine-disease, and the supposed distinctive pains of cancer. No doubt there is sometimes intentional fraud and lying in these cases; but in many more I think you may be sure that patients do not study the imitation or deliberately determine to practise it. Rather they are, in respect of will, like children, who almost involuntarily imitate diseases; for instance, in stammering, limping, and so on. I think that many persons, even such as have good nervous systems, must be conscious that it requires effort—that is, a full exercise of will—to avoid these imitations, and to disbelieve or disregard sensations imitative of those endured by others. And in the frauds which some of these patients practise I am nearly sure that the fault is rather in weakness of the will than in its perverse strength. As other people cannot resist thieving or drinking, so these cannot resist, have not will enough to resist, the inducement to fraudulently exaggerate, their symptoms, or even to invent some. It is often very hard to distinguish between the frauds of the wilful and those of the will-less; but I have seen no reason to believe that wilful fraud in disease is much more common among those with nervous mimicry or hysteria than it is among others.

If you study nervous mimicry in all the varieties of mental strangeness that may be associated with it, it may often seem to you an entirely mental disorder, due only to imagination, or to intense attention directed on one place, or to adoption of signs heard of, or, in many cases, to an insanity of the intellect; and it is not easy to find sufficient evidence that it is not so. Imagination, fear, and keen attention, association, and the tendency to imitate distresses seen or heard of, might produce all the morbid sensations of which patients tell, and might give form and intensity to pains from any casual source of real disease; and as for the postures observed, for instance, in mimicries of diseased joints or spines, these, it may be said, are only such as are assumed instinctively for the relief of pain; and in an intensely sensitive person, with no substantial reason for more than a slight pain, it is probable that the subjective intensity of pain would bring about the same postures of relief. Similarly, flushings and transient heats might be all of mental origin, as blushing is. If you study these mimicries from the mental side, you may, I say, easily find reasons for thinking them mere mental errors—insanities—rather than erroneous workings of sensitive and motor nerve centres; and you will be almost convinced of this view of the case if you will read of the multiform and profound influences of the mind over the body in Dr. Tuke's recent book on this subject, or in any similar work. But I think I may assure you, that to regard all mimicries of organic diseases as essentially mental errors would be bad pathology and worse practice. Let me put the case before you very briefly, for I am lecturing on diagnosis, not on pathology.

Some mimicries are essentially mental; such, for instance, as those in which patients, out of mere fear and keen attention, acquire the pains of cancer, and localise them in healthy parts; and in nearly all mimicries a mental influence may be discerned, just as it may in nearly all real diseases in which consciousness remains—an influence often impossible to separate or weigh, generally increasing with the duration of the disease, yet not essential to it whether it be real or mimic. But in some mimicries it is hard to discern any mental influence at all. Some are imitations of diseases very far from mental associations—the cases, for example, of intestinal distension, constipation of many days' duration, constant vomiting and apepsia, rapid heart-action with slow breathing, largely-pulsating arteries and phantom tumours. Some are found in common-place, ignorant, and slow-minded people who never saw or heard of the diseases imitated in them. Some occur in children who could neither imagine nor act what they tell and show, though as they grow up they may become those in whose successive mimicries the mental influence takes a constantly increasing part. And, to end, whatever may be ascribed to mental influence, it can produce mimicry of organic disease in only certain persons whose nervous organs seem wholly prone to this manner of disorder, and whose spinal and ganglionic systems must be deemed erroneous, as well as, or more than, their brains. For nervous mimicry is not very frequent among the evidently insane, and among the sane there are many who cannot bring about a mimicry of disease by any effort of imagination or direction of the mind. Among these I am happy to count myself. I have tried many times, carefully, and with good opportunities, but have always failed.

EVACUATION OF A PORTION OF BOWEL.—The above case occurred in the wards of Dr. Demarquay, at the Hospice Municipal. A boy of fifteen was taken with a violent fit of vomiting, colic, and diarrhœa, after eating some sugar-plums painted in red, green, and blue. The stomach was tense and swollen, and six worms, together with three bits of a fleshy substance, like boiled liver, were thrown up. Twenty other worms were afterwards successively vomited. On the fifteenth day the patient evacuated a piece of thickish, slimy membrane, about an inch broad and twenty inches long, and into which the finger could be introduced like a glove. After this the boy went on lingering, with frequent attacks of diarrhœa, and though the appetite was good he gradually lost flesh. The attacks were doubtless occasioned by the fæcal mass reaching the retracted portion of the soldered bowel. The patient died, but a post-mortem was not allowed to be performed.

Clinical Lectures
ON
SPASMODIC ASTHMA.

Delivered at the Hospital for Consumption and Diseases of the Chest, Brompton.

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LECTURE II.*

Pathology.—The pathology of spasmodic asthma has been the subject of much research, and has been investigated more scientifically than the pathology of most forms of lung disease. The onset and departure of the attack, and the changing physical signs, denote that, whatever obstruction exists in the bronchial tubes, it is of a spasmodic and transitory nature. However, until Reisseissen discovered the existence of the circular muscular fibres in the air-tubes, there was no explanation of these spasmodic phenomena. Indeed, some doubt was thrown on the fact of there being any muscular fibres at all; and, to settle the matter, Dr. C. J. B. Williams carried out his well-known series of experiments on the lungs of dogs, rabbits, donkeys, and other animals. By affixing a hæmadynamometer to the trachea or bronchi, and applying to the bronchial tubes, of various sizes, stimuli—electrical, mechanical, and chemical,—he caused the fluid to rise in the tube to the extent of some inches; thus demonstrating the existence of a contractile coat in the bronchiæ. These experiments also showed, what is now well known to all microscopists, that the muscular element is more abundant in the smaller tubes than in the larger; and that the former can contract sufficiently to entirely obliterate their passages. The contraction of the bronchi was more tardy than that of the œsophagus, but more prompt than that of the arteries; and relaxation did not follow till some time after the removal of the stimulus.

Biermer,† whilst agreeing with the theory of asthma being due to spasmodic contraction of the bronchial muscles, goes so far as to imagine a valve-like contraction of the muscle, which is more easily opened by inspiration than expiration. We must bear in mind that Laennec showed that an asthmatic patient could, after holding his breath, actually breathe naturally for one or two respirations; thus clearly demonstrating that the spasm was capable of momentary relaxation.

The above experiments, which were confirmed by Volckman, Valentin, and others, having established the existence of the bronchial muscle, which was again afterwards demonstrated microscopically by Mr. Bowman and others, the next point is, to define the channel through which it is irritated in spasmodic asthma. Here we find difficulties, because we know that the spasm may be induced by a variety of causes, some acting directly on the mucous membrane of the lungs, others by more circuitous routes—as, for instance, when a loaded rectum is the cause of an attack, or, again, when a fit of passion brings it on. The lungs are abundantly supplied with nerves of both cerebro-spinal and sympathetic systems, and numerous filaments may be traced following the bronchi in all directions.

The principal nerve-supply is from the two pneumogastrics, which give off within the thorax *anterior* and *posterior* pulmonary branches. The anterior pulmonary branches of each pneumogastric nerve, passing in front of the root of either lung, receive branches from the sympathetic ganglia, and form a small plexus (the anterior pulmonary), from which nerves are distributed to the bronchi, chiefly in the anterior portions of the lung. The far more numerous

* In my first lecture (Sept. 6th) two errors occur relating to the able researches of Mr. Blackley on hay fever and hay asthma. Mr. Blackley is represented as suffering from the asthmatic form of the complaint, whereas he suffers from the catarrhal form; and, again, he has only produced the latter form by inoculation of the pollen, whereas I stated that he had produced the former.

† Ueber Bronchial-asthma.

posterior pulmonary branches come off from the vagi, where they are situated at no great distance from each other behind the bifurcation of the trachea; and at this point is formed that very important network, *the posterior pulmonary plexus*, to which the contributors are—first, the right and left pneumogastrics; secondly, the left recurrent laryngeal; thirdly, branches from the third and fourth thoracic ganglia of the sympathetic. The branches of this complicated plexus are thickly distributed to the bronchi, from which a ramifying network reaches the finest divisions, and it was in connexion with this last that Remak discovered small ganglia. If we add the branches which the trachea receives from the recurrent laryngeals, it will be seen that the lungs have an abundant nerve-supply of all kinds, sensory, motor, and sympathetic; and when we take into consideration the origin of the pneumogastric, and the close connexions of the sympathetic and spinal nerves, we shall have no difficulty in explaining the path of centripetal irritation, or, again, of demonstrating how the various muscles of respiration become successively involved, the majority of these being supplied by the lower cervical and upper dorsal nerves.

M. Sée says:—"The asthmatic fit at its commencement is only a centripetal irritation of the vagus and of the superior laryngeal. What follows a strong irritation of the vagus is an arrest of respiration, and this arrest takes place during inspiration, the diaphragm being in a state of contraction of a very powerful and tetanic kind. The other inspiratory muscles become excited in turn, according to a regular order, which can be predicted, and is identical with that followed in asthma: first, the diaphragm, then the external intercostals, and then the short elevators of the ribs—viz., the scaleni and the serrati postici." Sée evidently lays great stress on the part played by the superior laryngeal nerve, and seems to consider it the principal excitor of the spasm. To adopt this last idea we must conclude that the simple entry of the excitant, whatever it may be, into the larynx suffices to induce bronchial spasm, it being by no means necessary that it should reach the lungs. From analogous cases it is more likely that laryngeal, and not bronchial, spasm would be thus induced.

Doubtless the result of irritation of the vagus is very analogous to an asthmatic fit, especially the mode in which the muscles of the chest and spine become involved; we must not, however, forget a fact elicited by Dr. C. J. B. Williams's experiments on the bronchial tubes, which was "that irritation of the trunk of the vagus had less effect on the bronchial muscle than direct irritation of the muscle itself." This is rather remarkable, and can only be explained by supposing, firstly, that part of the motor fibres are derived from the sympathetic and spinal nerves; and, secondly, that the primary bronchial spasm may be carried on by reflex action through the various ganglia which are found connected with the bronchial plexuses, and that in process of time the pneumogastric fibres become involved, and, the irritation reaching the medulla and spinal cord, a motor effect takes place through the upper cervical, phrenic, and dorsal nerves, and then a spasm of all the respiratory muscles occurs.

There is no doubt, however, that direct irritation to the trunk of the vagus, though less easily than when applied to the bronchial muscle, may cause the spasm, as Biermer has noted it in connexion with enlarged bronchial glands; and it is exceedingly probable that in some of the asthma cases which in early life follow close on attacks of measles, whooping-cough, and bronchitis, considerable enlargement of the bronchial glands takes place.

We may by the above methods explain the causation of asthma through local irritants; but how is it brought about when the cause is more distant—as in asthma following indigestion? The sensation is probably conveyed through the gastric branches of the pneumogastric, and then reflected through the motor nerves of the pulmonary plexus; but, in the cases arising from a loaded rectum or a pregnant uterus, we are obliged to call in the aid of the sympathetic, and to consider that the irritation is conveyed through the splanchnic nerves to the spinal cord, and thence reflected through the pneumogastric to the bronchi. Lastly, asthmatic attacks induced by fright, passion, or laughter must be regarded as instances of centric irritation and centric action on the pulmonary plexus through the pneumogastric.

If we eliminate from our list of asthma cases those arising from bronchial inflammation, and also those dependent on certain states of blood, the rest may be considered pure neuroses; and, if any link were wanting to prove this, it is the association of asthma with angina pectoris and migraine. Of this last I have had many instances; the asthma had subsided, and has been followed by intense neuralgia of one side of the face, and taking the course of the branches of the fifth nerve.

Dr. Anstie,* in a very instructive paper, advances the theory that asthma, angina, and gastralgia are all neuroses of the pneumogastric of central origin, dependent in the majority of cases on inherited peculiarities of the central nervous system. He quotes Kneeland's observation that asthma and angina were apt to pass the one into the other; and states that severe and protracted asthma nearly always becomes complicated with symptoms resembling those of angina, "and that he has known it in three cases to lead into declared and unmistakable angina." He also dwells on the frequency of association between asthma and gastralgia; and remarks that the neuralgic character of the pain is often overlooked, and the pain attributed to dyspepsia, and treated accordingly.

My experience of a very large number of cases of asthma, seen in hospital and private practice, would not warrant me in assigning so close a connexion between asthma and angina as Dr. Anstie appears to do. I have noticed their occurrence in the same person, but somewhat rarely. The gastralgic symptoms are sometimes to be noted; but I do not see why they need be confounded with the dyspepsia which, in many cases, follows so closely and certainly after the ingestion of certain articles of food as to preclude any idea of a central nervous origin.

Diagnosis.—This, as a rule, is less difficult than in most cases of chest disease. Asthma is, for instance, widely separated from croup. It might be expected that age alone would be a guide; but this is not entirely so, as children of one year and upwards have been known to be affected with spasmodic asthma. The dyspnœa of the two complaints forms a striking contrast. In croup all efforts are directed to inspiration; in asthma to expiration. In croup the muscles of the throat, neck, and chest are in full activity to raise and broaden the thorax; the head and neck are outstretched to render the admission of air as easy as possible, instead of being sunk down between the shoulders; the larynx is drawn up. As an insufficient amount of air enters the chest, the air already contained therein becomes rarefied, and consequently the external atmospheric pressure causes a falling inwards of the soft parts of the thorax. Great depressions are visible in the supra-clavicular and intercostal spaces, and the diaphragm draws the lower ribs inwards. The inspiration is long, the expiration short; in a word, the dyspnœa is *inspiratory*. In bronchial asthma all efforts are directed to expiration; the muscles raise the shoulders; the thorax, far from containing a too rarefied atmosphere, is greatly distended; the intercostal spaces bulge; expiration is long, inspiration is short; in a word, the dyspnœa is *expiratory*. The diagnosis from emphysema is founded chiefly on the fugitiveness of the symptoms and physical signs, and also on the paroxysmal character of the attacks.

Asthma is distinguished from bronchitis both by the clinical symptoms and by the fugitive physical signs; still more by the nature of the dyspnœa. The breathing in bronchitis, if at all severe, is hurried; in asthma it is slow, wheezy, and prolonged, and this feature of the asthmatic respiration strongly contrasts with the gasping, panting dyspnœa generally accompanying pneumonia, pleurisy, and some forms of heart disease.

As a rule, the diagnosis of asthma from other diseases is not difficult, the periodic occurrence of the fits and the slow expiratory nature of the dyspnœa being sufficient to distinguish it from most chest affections. Occasionally, however, aneurism of the aorta and other mediastinal tumours give rise to symptoms so exactly simulating spasmodic asthma as to make it almost impossible to distinguish between them. The following case is an illustration of this.

Edward L——, aged thirty-two, a porter, residing at Hounslow, was admitted into the hospital August 6th, 1872, under my care. He stated that, beyond having small-pox when a boy, he had enjoyed good health till Christmas, 1871, when, according to his own account, he became very liable

* British Medical Journal, 1869.

to catching cold, and had bronchitis, for which he was an in-patient of the Royal Free Hospital, and soon got better. In May, 1872, he became liable to spasmodic attacks of an asthmatic kind, and was made out-patient of Brompton Hospital under Dr. Tatham, whose diagnosis was "spasmodic asthma." The attacks increased at first in frequency and severity, but under treatment they became reduced, and he was able to return to his work, and continued at it during the greater part of the summer. The attacks have lately returned, and have become very severe. Yesterday he had one lasting some hours.

On admission the breathing was short but not hurried, the respirations being only 28. Orthopnœa, and aspect slightly livid; expiration prolonged (on one occasion stridor was present); pulse 90, equal at both wrists, and regular; tongue chapped; appetite good; bowels regular; thorax much distended, and breath-sounds very deficient; but a careful examination of both the heart and large vessels discovered nothing else. All the muscles of respiration, ordinary and extraordinary, were in full action. My diagnosis, like Dr. Tatham's, was "spasmodic asthma."

During the first five days the patient had an attack every day, lasting from one to three hours, which was greatly relieved by inhaling chloroform. Afterwards the attacks became less frequent, and he appeared to be getting better of them, when one night he was seized with a very severe one, in which Mr. Bartlett, the assistant medical officer, was called up to see him, and before Mr. Bartlett could reach his bedside he had died suddenly, as if from syncope.

On post-mortem examination a small aneurism, the size of a Seville orange, was found slightly pressing on the trachea, arising from the posterior wall of the transverse portion of the aortic arch, involving the left pneumogastric and recurrent nerves. The heart was healthy, the lungs were gorged with blood, and the bronchiæ contained a good deal of secretion.

It must be admitted that Dr. Tatham and I had strong grounds for our diagnosis, erroneous though it proved, the character of the dyspnœa and the course of the disease, especially the relief of the symptoms under treatment, pointing to spasmodic asthma. There was one feature, however, revealed by a retrospect of the case—and how instructive the retrospect of our errors often is—which ought to have made me suspect the existence of a tumour, and that was the occasional presence of *stridor* of the breathing. This could only be dependent on the recurrent laryngeal being involved. I remember noting this, and taking into consideration the chance of aneurism, but the physical signs and the gradual subsidence of the attacks during the first few days negatived it in my mind. Dr. W. T. Gairdner* has related a somewhat similar case:—A man aged sixty suffered from intense dyspnœa, pain in the chest and cough, and expectoration tinged with blood. The orthopnœa was extreme; he was livid and had an expression of great anxiety. On the right side, respiration was sonorous and wheezing; marked dulness, absence of respiration, and increased vocal resonance and thrill over the central regions of the left chest. Several attacks of orthopnœa followed his admission, in one of which he died. On post-mortem examination two aneurismal sacs were found springing from the posterior surface of the descending aorta, each about the size of a small orange, one of which had opened into the left bronchus, and given rise to the hæmorrhage. The vagi and recurrents were not involved. Dr. Gairdner made a correct diagnosis grounded on the occurrence of hæmoptysis, and also on the position of the consolidation, as evidenced by physical signs. The one-sided nature of this last must have greatly assisted him. In my case unfortunately neither of these data was present, and the dyspnœa was far more of a paroxysmal kind.

Another case is related in which a tumour of the pneumogastric nerve gave rise to asthmatic symptoms, which is very instructive as it is another link in the increasing chain of evidence in favour of spasmodic asthma belonging to the neuroses.

Treatment.—The treatment of spasmodic asthma is by no means easy, and in a disease where the modes of causation are so varied it is difficult to lay down rigid rules. The grand principle should be: Avoid all exciting causes of the attack, and place the patient under conditions most likely to allay, and keep allayed, spasm. The treatment may be divided into *climatic* and *medicinal*; the former being, as a rule, vastly more important than the latter. We have to discover a climate in which the patient can *breathe*—no easy task, indeed, in a disease the course of which follows neither rhyme nor reason, and often seems to depend wholly on the idiosyncrasy of the individual.

The only safe guide to follow in obstinate cases is the doctrine of contrasts, and, whatever the climate of the locality be where the disease has been contracted, to boldly resort to its very opposite: should it be a damp one, to resort to a dry one; if a dry one, to a moist one; and if inland, to the sea, and so forth. High localities suit some asthmatics; sea air a few; cold places some; warm localities others; but the atmosphere in favour of which the strongest evidence exists is that of populous towns, and the more smoky and drier the town the better for the asthmatic. Trousseau and Sée give marked instances of asthmatics who were cured by quitting their country homes and residing in Paris. Salter enumerates many striking examples, and even concludes that the worse the air is for the general health, the better for the asthma. Thus he considers the worst parts of cities—i. e., the least hygienic—the best for asthma; and, conversely, the best or most hygienic parts the least suitable for asthma; and in London he prefers the City to the West-end.

With reference to the advantages asthmatic patients derive by removing to the crowded portions of cities, a well-known physician of Nice furnished me with a good instance. An asthmatic English nobleman, who had resorted to the sunny south for sunshine and balmy air, took up his residence in a beautiful villa on the Promenade des Anglais, facing the sea. The situation was excellent, and the hygienic conditions as good as can be obtained at Nice; but he could not breathe, and spent night after night in great and breathless anguish. He had made up his mind to quit the place, and was one day wandering about the old town, a closely packed, ill-smelling neighbourhood, in search of a hair-cutter, when he espied a small and by no means tempting-looking shop of the sort. He entered, and in the somewhat ill-ventilated, low-ceilinged room found to his astonishment that he could breathe with comfort. He gave up his grand villa, took up his quarters in the barber's first-floor, slept soundly, and ceased to wheeze.

Without going so far as Dr. Salter, I may say that I have found the air of London beneficial to by far the majority of my asthmatic patients, and I consider this the more remarkable because the localities they have quitted have been very dissimilar. Some come from high table-lands with little or no vegetation, others from deep valleys abounding in trees, some from damp river-sides, some from the sea-coast, some from hot, some from cold climates. Even in town atmospheres asthmatic patients show themselves extremely sensitive to slight differences of situation; some can sleep in a back room and not in a front one of the same house, others in a garret better than in a first-floor, while a few feet of rise or fall in a city has been known to make great difference. All densely-populated smoky towns appear to exercise this good effect; for instance, Manchester, Leeds, Birmingham, Glasgow, have furnished instances of asthmatics improving in their atmospheres with little aid from medicine. It has sometimes surprised me to witness severe attacks, which have lasted in the country for days and weeks, subside in a few hours in the much-abused atmosphere of our metropolis.

Now, what do we know about the air of cities? How does it differ from the pure air of the country? First, it is drier than that of most country places; secondly, it contains, according to Dr. Angus Smith's careful analysis,* more carbonic acid; thirdly, it contains less oxygen. Dr. Smith made numerous analyses of the air in various parts of the metropolis, in each postal district, near the river-side, in the parks, in the most densely-populated portions; and in the subjoined table I have given some of the results which appeared to me to bear most closely on our subject. I have compared them with those of Glasgow, and, what is more to the purpose, with Dr. Smith's admirable analysis of specimens of air taken from the summits of nine or ten of the principal mountains in Scotland (the wind not being strong at the time of observation), as well as with the air of the Scotch seaboard and of open heaths of no great elevation.

* Clinical Medicine, p. 477.

* Air and Rain.

	Carbonic acid, per cent.	Oxygen, per cent.
Mountains of Scotland (average) ...	·0332 ...	20·98
Seashore and open heaths „ ...	— ...	20·99
Glasgow ... ... „ ...	·0502 ...	20·90
London ... ... „ ...	·0439 ...	20·88
„ near London Docks (maximum)	·0528 ...	20·76
„ E. & E.C. Districts (average)	·0474 ...	20·86
„ W. & W.C. Districts „	·0411 ...	20·92

This table shows a decided increase in the percentage of carbonic acid, as well as a diminution in the oxygen percentage, present in the atmospheres of Glasgow and London. The differences in the air of the various postal districts are much what experience would have indicated, the air becoming purer as we advance to the west in consequence of the large extent of parks and open spaces. The differences in the amounts of oxygen and carbonic acid, when taken in relation to the whole percentage, are by no means great, and are only to be found in the first or second place of decimals. But when we remember the small percentage of impurity which suffices to render drinking-water injurious in spite of the disinfectant power of the gastric juice, and the usually small amount of water swallowed, can we wonder that the lungs, in the course of respirations 16 to 20 in the minute, and unprotected by any filtering apparatus, may introduce in the course of a whole day a sufficiently large quantity of a certain gas to have a decided influence for good or evil, even though the percentage of the said gas may be comparatively small. Dr. Angus Smith says: "We take into our lungs 1000 or 2000 gallons of air daily. The addition of $\frac{1}{1000}$ at each inspiration will give us fifteen grains in the day—an amount by no means to be overlooked." This excess of CO_2 in the London atmosphere, combined with the diminished amount of oxygen, may have a deadening effect on the pulmonary mucous membrane, and render it less sensitive to slight excitants. If it is not the excess of CO_2, or the smaller amount of O, it may be the unconsumed carbon, or some other component of town air which dilutes and renders it a less potent draught to the asthmatic lungs than the pure, fresh, champagne-like air of the mountains or open country.

The late Sir James Simpson was in the habit of having a certain amount of carbonic acid mixed with the atmosphere inhaled by asthmatics, and the baths of St. Moritz and Ems and others are sometimes used on account of the carbonic acid which the waters give off.

The great difficulty with regard to introducing a certain amount of carbonic acid into the atmosphere is the regulation of the quantity introduced, for too great care cannot be taken on this point, as a very small excess of carbonic acid may prove fatal. Martius concludes, from experiments, that carbonic acid is the principal result of the burning of the popular remedy of nitre paper, and if this be the case this is one of the safest methods of administering this gas.

The *dietetic* treatment of asthma must be to a certain extent arranged to each patient's particular case, but, as a general rule, the earlier meals should be made the fullest, and but little solid food taken after two o'clock. Stimulants should be of the kind least likely to cause flatus in the stomach and intestines.

The *medicinal* treatment of spasmodic asthma must to some degree depend on its causation, and, in fact, on how far the cases are simply neurotic, or complicated with, and dependent on, inflammation, or, again, on a morbid state of the blood.

All the local causes, with the exception of inflammation, produce a form of asthma which is a simple neurosis resembling neuralgia; but inflammation of the bronchiæ, as a rule, leaves behind it some organic lesion, against which it is necessary to direct our treatment if we hope for any success. It will often be found in these cases that the treatment of the catarrh or of the inflammatory symptoms accompanying it will considerably reduce, if not abolish, the spasmodic attacks, as the irritation of the vagus is dependent on the former. The combination of salines with small doses of such sedatives as stramonium, belladonna, and henbane, followed up by iodide of potassium, generally answers well, and these cases are perhaps the most manageable of any.

Again, where asthma is brought about by general causes acting through the blood we have not a pure neurosis to deal with, and our treatment must be directed to the particular morbid state of blood existing, whether it be gouty or syphilitic, or that producing the various skin eruptions. It is in this last form of humoral asthma, as it is called, that arsenic proves of such signal service, especially if the case be at all of a chronic order. It not rarely happens that both the asthma and the skin disease are cured by a steadily pursued course of the drug.

The great majority, however, of cases of spasmodic asthma are purely neurotic, and, like all neuroses, most difficult to treat, the results of drugs on different individuals varying greatly. On one belladonna acts like a charm; on another, by causing dryness of the fauces, it only increases the spasm. Some patients swear by stramonium, others by lobelia; a third class find relief in emetics. There is perhaps no department where empiricism is supposed to hold its sway more absolutely than in the treatment of neurotic asthma; for what between the pills, the papers, the cigarettes, and the pipes, all of which are warranted certain cures, the humble inquirer about the action of drugs may well be perplexed. Though deprecating any attempt at an elaborate classification of the so-called antispasmodics, I would suggest that those of greatest use in the treatment of this kind of asthma may be arranged as follows:—

1. *Stimulant antispasmodics.*—A certain number of asthmatics gain relief by sulphuric ether, by strong coffee, and even alcohol. One of the most recently introduced of this class is the nitrite of amyl, which, by acting as a violent cardiac stimulant, sometimes relieves the spasm.

2. *Sedative antispasmodics.*—This is an almost endless class; and if the sufferer perseveres he generally gets relief from one or more members of the group, which includes datura, stramonium, tatula, belladonna, hyoscyamus, tobacco, lobelia, Indian hemp, and others. With regard to stramonium, belladonna, and henbane, their use was dictated, as is well known, by the experiments of Dr. C. J. B. Williams, who found that in animals poisoned by these drugs the bronchial tubes were dilated and incapable of being excited by any stimulus, and presented a marked contrast to the results of opium-poisoning, where the bronchial tubes were found contracted after death. Both stramonium and belladonna seem to act most beneficially in the slighter cases; but where they cause dryness of the throat, or even delirium, they seem to have little effect on the bronchial muscle. I found far more satisfactory results follow the use of the extract of stramonium made from the seeds, in quarter-grain to half-grain doses, than in smoking the cigarettes of the leaves, which however have a high repute. Lobelia is a valuable agent when used in sufficiently large doses; but to do much good it must be administered, not in doses of from ten to thirty minims, as is often done, but a drachm at a time, and repeated every three or four hours until some effect is produced. Tobacco when smoked has a sedative influence, but when taken into the stomach is a very unsafe remedy, it being necessary to push it to the extent of producing vomiting before relief comes, and ofttimes alarming symptoms of failure of the circulation follow. Indian hemp has been used, and with a certain amount of success, but it occasionally gives rise to curious head symptoms, and therefore requires careful watching.

Inhalations of various kinds, and smoking the different cigarettes often do good if the spasm be not very severe; but when this is the case we must expect them to fail, as they generally do, from the great difficulty of introducing them into the system. It is then that hypodermic injections of morphia come in useful, and, by inducing slumber, relax the spasm. The dose should be from one-sixth to one-fourth of a grain, repeated from time to time, and their use is at once contra-indicated by any blueness of the face or signs of obstructed circulation.

In very obstinate cases you will find that sometimes all drugs fail, chiefly on account of the difficulty of introducing them into the system, and the fit gradually wears itself out, generally through the carbonic acid accumulating in the lungs and inducing anæsthesia of the mucous membrane, and thus relaxing the spasm.

I can testify highly to the benefits of chloroform inhalation in the worst cases, in many of which it has acted like a charm, and sent the sufferer into a calm slumber, from which he has awoke free from dyspnœa. In others the relief is temporary and the spasm returns as severely as

ever. The objections to the use of chloroform seem to me to be twofold. First, it sometimes in small quantities—i.e., less than one drachm—causes intermittence of the pulse; second, it cannot with safety be entrusted to the patients themselves.

For these reasons I determined to follow Professor Biermer's example, and try the nearest and safest approach to chloroform—viz., chloral,—and I selected for the purpose several cases where the fits were of long continuance, and marked by only short intermissions. The chloral was given in doses of from fifteen to twenty grains, in an ounce of peppermint water, every three or four hours. The effect in almost every instance was that the patients fell fast asleep after the first dose, and slept in a recumbent posture for a few hours, which they had not been able to do for days and weeks. On awaking there was a tendency of the spasm to return, which was generally obviated by two or three repetitions of the large doses. The breathing gradually became quite free, except when considerable emphysema existed, and here the asthmatic spasm was removed, and only the habitual dyspnœa remained. The doses of chloral were then reduced, and gradually discontinued.

Having succeeded with the most troublesome form of asthma, I next tried the drug in cases where the attacks, though severe, are far more periodic, appearing at a fixed hour every night, and completely disappearing the following day. Here the chloral seemed still more successful, as a large evening dose generally afforded a good night's rest, and steady perseverance with the night draughts seemed to break the habit of the attacks, and eventually to get rid of them altogether. After this I have tried chloral in most forms of spasmodic asthma, and it is not to be wondered at that it has become a favourite prescription in my wards.

In the twenty cases in which I have used it, speedy relief has been obtained in all. In two this has only been temporary; in the other eighteen permanent. In three cases where the scruple doses have been repeated several times, the patients complained of queer sensations in the head, and in one of these, a very obstinate case, where the chloral was continued for days, the patient complained of feeling muddled. Vomiting came on, which disappeared on the appearance of a purpuric eruption on the legs. The drug was of course discontinued, and in a few hours the wheezing, which had ceased, returned. This was the only instance of bad effects following.

I will not take up your time by relating any of the above cases, some of which you have watched for yourselves, but I will conclude by strongly urging the claims of chloral to a fair trial at your hands in the treatment of neurotic asthma.

In conclusion, a word on *prognosis*. Patients do not die of asthma, although they sometimes seem on the verge of suffocation. The question of recovery is to a certain extent a question of (1) age; (2) of whether the attacks increase or not in frequency; and (3) what the state of the chest and breathing is in the intervals. If the patient be young—say under fifteen,—the chest well formed, the attacks diminishing, and the chest free in the intervals, a most hopeful prognosis can be given. If, on the other hand, the patient be over forty, the attacks increasing in number and severity, and the breathing more or less short in the intervals, the prognosis is unfavourable.

CASE OF TRAUMATIC ANEURISM OF THE THROAT, SUCCESSFULLY TREATED BY LIGATURE OF THE COMMON CAROTID.

BY R. R. BOWKER, F.R.C.S. ENG.

ON February 2nd, 1872, a young man of very healthy, well-nourished appearance, about twenty-three years of age, was brought to my surgery. He complained of great pain about his left zygoma near the ear, of a swelling under the tongue of the same side, and of inability to open his mouth. He said he had been stabbed by a sailor on the night of January 1st, 1872, and bled profusely from the wound, as also from his mouth. He was taken to a surgeon, who dressed the wound, and the bleeding stopped. I found a cicatrix, between half and three-quarters of an inch in length, immediately beneath the zygoma. About three-quarters of an inch from the left ear, under and about the cicatrix, about half an inch in diameter, was a soft and obscurely pulsating swelling. There was also a swelling in the mouth, in the angle between the last molar tooth and the cheek, as also about the inner side of the soft palate above and below the left tonsil. On account of his inability to open his mouth I could not examine the painful part underneath his tongue. It was manifestly a traumatic aneurism of a branch of the left external carotid, probably of a branch of the intermaxillary.

As the patient lived near, after explaining to him the probability of hæmorrhage and necessity for operative measures, also instructing his brother-in-law how and where to make pressure in case of hæmorrhage, I determined to wait until urgent symptoms should come on—first, because I had seen small traumatic aneurisms recover by the efforts of Nature, probably by swelling and coagulation of their contents causing obstruction to the flow of blood through the wounded vessel; secondly, because such cases do not prove fatal until after several attacks of hæmorrhage, and not on the first attack, and I preferred to operate immediately after his vascular system had been depleted by hæmorrhage, hoping thus that after operation the parts would heal before the vessels had attained their wonted fulness, so that the danger of secondary hæmorrhage would be lessened. Besides that, I did not wish to subject the man to a dangerous operation until himself and his friends should have been ocularly convinced that such was the only method of saving his life. I prescribed cold lotions and opiates to relieve his pain.

About February 14th, at 9 P.M., I received a message that the swelling had burst out bleeding, and that the blood was pouring from his mouth. On my arrival, the bleeding having stopped, I recommended the application of ice to his face and within the mouth, also perfect rest, and to take some acetate of lead and opium internally. The hæmorrhage did not recur until February 27th, on the morning of which day I found him leaning over a wash-hand basin, which seemed half full, or nearly so, of what looked like pure blood, the blood coming nearly in a stream from his mouth and nose. I stopped it by pressure behind the angle of the jaw and between the angle of the jaw and the mastoid process, finding that pressure in this situation controlled the bleeding better than on the lower part of the neck beside the larynx. In order that the bleeding might have stopped some time, so as not to interfere with the operation, I determined to wait a couple of hours or so, leaving my assistant to continue the pressure as long as needful, again trusting in some measure to the depletion of the vascular system for temporarily stopping the hæmorrhage.

In about two hours, with the able and kind assistance of Messrs. Samuel Knaggs and his father, as also of my assistant, Mr. Considine, I proceeded to the operation. I had the patient moved on to a table, the sound side next a window, a sofa bolster under his neck. I chose on this occasion to tie the common carotid instead of the external carotid, since there was considerable swelling between the angle of the jaw and the mastoid process, extending somewhat below the angle of the jaw, because I thought that in tying the external carotid the branches would be so near the ligature as to make secondary hæmorrhage more likely than if the ligature were applied on the common carotid, free as it is from branches; while from the youth, the perfect health of the patient, as also from the vascular depletion to which he had been subject, I the less feared any cerebral congestion or complication; and also because my assistants in the case seemed to prefer the ligature of the common carotid to that of the external one. I marked the course of the incision with a pencil from high up near the angle of the jaw to just below the larynx over the course of the artery as felt pulsating. After dividing the integuments I divided the intervening tissues, making layer after layer of them on the hernia director, until I came down on the artery. Two small arteries were wounded in the course of this division of tissues, and were ligatured, as also a rather large vein (possibly the external jugular); this, however, did not bleed or give any trouble. I could not well

tear the sheath of the vessel by means of the aneurism needle, but had to pinch it up on the inner side and divide it with the bistoury held sideways, then got the hernia director under the artery, and having seen that nothing but the artery was included, tied it with a single hempen thread.

I found a curved aneurism needle a most inconvenient instrument for getting round the artery in the first instance, a straight director being much better; the hernia director, being nearly straight, with merely a little tip or bend at the end, answered admirably for that purpose, as well as for the division of the various tissues. The wound nearly filled with welling up of venous blood several times; but by pressure for a short time with the finger, and then boldly proceeding to the ligature of the artery, it stopped, as one might indeed expect from the consideration that when the artery chiefly feeding the veins of the part was tied it would stop. I have read of this welling up of the blood in some author (Solly I think), but without the explanation of its ceasing on the completion of the operation. I give now this explanation because its consideration may be both comforting and useful to the young surgeon while operating. It occurred to myself years ago during the ligature of the femoral artery for popliteal aneurism; the latter operation, like this one, being perfectly successful. After the oozing of blood had well stopped—i. e., nearly immediately after the operation—I kept together the edges of the wound with three hempen thread sutures, applied thick lint compresses so as to keep the sides as well as the edges of the wound well together, keeping the compresses well fixed by very long strips of adhesive plaster, using no bandages round the neck, no carbolic acid or other antiseptic, and put the man to bed. Nine hours after the operation he was quite comfortable, the saliva not being coloured with blood, his skin rather hot, and his pulse rather full.

March 3rd (six days after the operation).—Has had no bad symptom, pulse being 96 for a day or two, then down to 84. He was kept perfectly still, and not allowed to turn on his side until after the first two days; his food cold liquid, such as tea, gruel, beef-tea, &c. The parts about the original wound or stab continued swollen after the operation, but without pulsation, and with a phlegmonous look. On the third day after the operation, counting the day of operation as one, the parts about the original wound or stab were much swollen, and the epidermis was raised into a vesicle immediately over the cicatrix, having every appearance of an abscess about to burst. On my visit on the fourth day, it had burst outside, but chiefly into the mouth, discharging, they said, much matter, like the matter of an abscess.

Fifteenth day.—No more matter now discharged, either from the face wound or the mouth. The wound in the face healed. He still keeps in bed. The bowels remained unmoved for nine days after the operation, when they were relieved without medicine. On this day I first removed the dressings. Some of them had previously become rather loose, but for fear of loosening any adhesions I had not much tightened them. The operation wound I found quite healed, except the place of the ligature on the carotid artery. I gave this a very slight pull, but finding it not loose, I covered the wound with resin cerate on lint.

On the eighteenth day after the operation I found the ligature loose in the wound, and drew it away. There was a little purulent discharge from the traject of the ligature, which soon ceased. He got up and has been without a bad symptom and perfectly well ever since.

For more than twenty years I have not used a silk ligature on an important artery, feeling sure that some cases of secondary hæmorrhage of which I have read have been caused by the loosening or untying of the knot by the elasticity of the silk. I have used instead hempen thread, which is but little or not at all elastic. For so long—i.e., more than twenty years—I have never removed the dressing of a wound (without some obvious reason) until I considered the wound healed, and I believe I have much reason to congratulate myself on having early adopted this principle.

I have used carbolic-acid lotions, oil, paste, &c., but cannot say that I have ever seen much benefit from these antiseptic applications, so that of late I have not used them, as in the above case.

Newcastle, New South Wales.

MILK AND THE MICROSCOPE.

By JOHN W. OGLE, M.D.

IN reference to an interesting question which has, however, only been slightly alluded to in the various observations which have recently appeared respecting milk and its impurities—viz., whether the milk of cattle can be injuriously influenced by their food,—I am anxious to refer the reader to a paper which I have lately read in the Journal of the Royal Agricultural Society of England.* It is from the pen of Mr. X. A. Willard, of Herkimer, New York, lecturer in Cornell University, and treats of the American milk-condensing factories and condensed-milk manufacture; and in connexion with the subject is full of general interest. In this article the author relates the history of the establishment of the manufacture, commencing with the description of Mr. Gail Borden's experiments, and describing the foundation of the Anglo-Swiss Condensed Milk Company (the first one to introduce condensed milk to family use). He describes in detail the liability of milk, as discovered in Mr. Borden's earlier experiments, and also according to the experience of the present day, to a "peculiarly bad behaviour," "refusing to be controlled," in spite of all due care and caution as respects cleanliness—a point which, in the manufacture of condensed milk, has especially to be attended to, as the success of the condensing factory depends entirely on the milk being fine-flavoured, and clean and healthy, free from drippings of the stable, &c.; and he alludes to investigations of Hallier and Pasteur on the change in milk wrought by living organisms, as from cesspools, decomposing and putrid animal matter, &c. He then quotes from Prof. Caldwell, who speaks of the germs of fungi thrown off from putrefying matter being mixed with the air, and thus inhaled by cattle, whose milk becomes in consequence infected before it leaves the bag.† He afterwards alludes to the discovery by Mr. Foster, of Oneida, that milk from cows which inhaled bad odours and emanations from decaying animal remains was rendered unfit for making cheese; and not only was the milk from the cows which inhaled the odour unfit for cheese-making, but also the milk from a large number of *other* cows which had been mingled with the former in the cheese-factory vats. He speaks of numerous cases where milk was tainted from the cows having passed through sloughs of decomposing vegetable matter, the particles of dirt which adhere to the udders and other parts of the animal falling into the milk during the process of milking, and introducing germs, which quickly decompose and putrefy good healthy milk. He mentions instances illustrating this, and describes the trouble which happened in the case of a large factory supplied by numerous farms or milk-walks, in one only of which it was found that the cows were allowed to cross a narrow slough where particles of mud adhered to the udder. But the facts which I particularly wished to quote are the following. They happened in the experience of Professor Law, of Cornell University, who obtains his supply of milk from a "milkman." "One day during the hot weather he observed a peculiar ropy appearance in the cream which had risen on the milk. He examined it under the microscope, and found it filled with living organisms of a character quite foreign to good milk. He immediately called upon his milkman to inquire concerning his management of stock and general treatment of milk, with a view of accounting for the trouble. There was no fault discovered at the dairy, in the milking, or in the treatment of the milk; but on looking through the pastures, he found that the cows, for lack of clean running water, were compelled to slake their thirst for the most part from a stagnant pool. This water he examined under the microscope, and discovered in it the same class of organisms as those in the cream. He then took some of the *blood* from the cows and examined it under the microscope, when the same organisms made their

* 1872, No. xv.

† As an illustration of the effects of inhaling air containing putrid matter, I may mention that when I was curator of the St. George's Hospital museum, the man who had to cover the preparations with bladder, which was used when in a state of commencing putridity, invariably at that time became subject to diarrhœa, and the fæces and the flatus from the bowels and from the stomach always had the same peculiar offensive smell which the putrid bladder possessed.

appearance. He next obtained a specimen of good milk—milk which on examination was free from impurities—and into this he put a drop of water from the stagnant pool. In a short space of time the milk developed an infinite number of these living organisms, and became similar in character to the milk obtained from his milkman. He examined the cows, and made the usual thermometric tests for determining health and disease in animals. The cows were found to be hot and feverish, thus evidently showing that the organisms entering the circulation had affected the health of the animals."

The above facts are cited to show that bad milk may arise independently of want of cleanliness in dairy utensils; and, assuming that all care was taken in conducting the observation, they seem to teach us that at the present time more attention should be given to the afore-mentioned source of impurity of milk than has been accorded to it. The facts which I have quoted indicate that the microscope may prove very serviceable in detecting unwholesomeness of milk, and they point out the necessity of close inspection of the separate farms or milk-walks which contribute severally to the dairies.

In the article above noticed the author gives the very excellent rules which Mr. Borden has drawn up for guidance in the treatment and delivery of milk. I may here remark that the *Journal of the Agricultural Society* contains several papers on food questions which are worthy of more reference by medical writers than they appear to obtain.

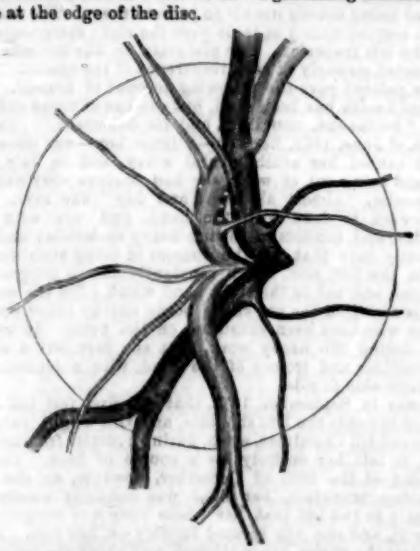
Cavendish-square.

CHOLESTERINE IN THE EYE.

BY JOHN TWEEDY,

ASSISTANT MEDICAL OFFICER IN THE SKIN DEPARTMENT OF UNIVERSITY COLLEGE HOSPITAL, AND CLINICAL ASSISTANT AT THE ROYAL LONDON OPHTHALMIC HOSPITAL.

THE presence of cholesterine within the eye is much more uncommon now than in the days of "couching" for cataract; but even in the present day cases of cholesterine in the vitreous are not so rare but that one or more cases have been seen by most ophthalmic surgeons. In the fundus oculi, however, in the retina and the choroid, its presence is a curiosity; and on the disc, as far as I know, no well-marked case has been observed, although Mauthner* has spoken of a case in which he saw a glistening cholesterine scale at the edge of the disc.



Lately I have met with two cases of cholesterine on the disc, one of which was very marked. The annexed drawing represents an enlarged view of the disc in one of the cases; and in the second case, although there was no cholesterine actually on the disc, a very bright speck could be seen on one of the upper branches of the vein at the edge, and two other scales were seen at the upper and outer part of the fundus at the side of one of the retinal arteries.

In the former case the patient had been under my observation for six months for optic neuritis of the left eye; and on Jan. 21st, 1873, in making a careful examination of the disc by the direct method, I noticed five minute specks, with the peculiarly brilliant and glistening appearance of a pure white light, on the upper branch of the central artery of the retina. The specks of cholesterine, for such they undoubtedly were, did not move with movements of the eye, nor could any other speck be detected in any other part of the eye. At the time when they were first seen, the patient could, with convex glasses of thirty inches' focal length, read No. 8½ Sn.; but in one month he was able to read No. 2½ Sn., all the scales having in the meantime considerably diminished in size, and by March 5th four had entirely disappeared. No special treatment was adopted, the only medicine given being for the relief of a chronic atonic dyspepsia from which the patient suffered, for he evidently was a man who drank very freely. By the indirect method the scales were not perceptible, so that if this method only had been used the specks would have been overlooked. I lay great stress on the direct method of examination, and have not the slightest hesitation in asserting that no ophthalmoscopic examination is complete without it, and by it we may easily detect appearances which are absolutely invisible by the indirect method; in fact, so convinced am I of the great advantages of the erect image for minute examination that I have adopted it lately to the almost total exclusion of the indirect method, which I only employ to obtain a general survey of the fundus.

In the second case the patient was perfectly blind of the right eye with retinitis pigmentosa, and in the left eye, although the morbid changes seemed almost as extensive as in the opposite eye, the patient could read No. 1½ Snellen from five to thirteen inches, and V = ⅓, but the field of vision was very much narrowed. On the upper edge of the left disc, as I have just stated, I detected a speck of cholesterine, and two other spots were seen at the upper and outer part of the fundus.

It is interesting to note that though both these patients were affected with a grave disease, yet the acuteness of vision was in one normal, and in the other it considerably improved as the scales disappeared and the neuritis passed off.

Within the present year I have also had under my observation a man who has a large deposit of golden-coloured cholesterine scales in the left crystalline lens, which is becoming cataractous. The scales did not move, and have not apparently altered during the time the patient has been under observation—that is, during a period of over nine months.

Stanhope-street, N.W.

* Lehrbuch der Ophthalmoscopie, p. 269.

INFANTICIDE.

BY W. HANDSEL GRIFFITHS, PH.D., L.R.C.P.E., &c.,

LIBRARIAN TO THE ROYAL COLLEGE OF SURGEONS IN IRELAND.

IN an interesting communication by Professor J. Stannus Hughes in the *Irish Hospital Gazette* for August 15th, he calls attention to a very peculiar mode of infanticide. A sharp instrument, such as a needle, is thrust up under the upper eyelid, so as to pierce the thin portion of the orbital plate of the frontal bone. When we consider that such a wound can be inflicted in such a manner as to cause no external mark whatever, and that the only symptom before death may be a convulsion, it excites grave apprehensions lest this process should become a favourite one with infanticides. The orbital plate of the frontal is, in infancy, of such tenuity that an instrument the size of a bodkin or needle can be thrust *through* it into the brain-substance without causing a *fracture*, and without causing the escape of a single drop of blood.

I have made several experiments on the lower animals, and I am led to conclude from them that the mode of murder as indicated above is one most easy of perpetration and most difficult of detection. I will at present merely

call attention to the fact that on some occasions on which I had inflicted death on young animals in the manner described I found the utmost difficulty in detecting a wound on making a post-mortem examination; and I found, moreover, that this difficulty was always proportionate to the length of time allowed to elapse before making the examination.

This mode of infanticide is by no means unknown, attention being directed to it, as Dr. Hughes mentions, in the works of Beck and Taylor. I am of opinion, however, that it has not had that degree of importance attached to it which it demands.

It is a grave question whether, in cases of sudden death of infants "from convulsions," where the remotest suspicion attaches, it is not the duty of the medical man to make a post-mortem examination *as soon as possible*, and minutely to investigate the state of the orbital walls.

Dublin.

AN IMPROVEMENT ON ESMARCH'S ELASTIC BANDAGE.

BY W. HARRISON CRIPPS,
HOUSE-SURGEON TO ST. BARTHOLOMEW'S HOSPITAL.

ESMARCH'S admirable suggestion of using an elastic bandage to exclude the blood before operating on limbs, and the complete success attending it, are now probably well known. The following is a simple modification of his arrangement, by which many yards of elastic bandage may be dispensed with, and it can be easily and quickly applied.

A short india-rubber tube is used, not only to prevent the blood from returning to the limb, but also for the purpose of removing it in the first place. The two ends of an india-rubber tube, twenty-one inches in length and about three-eighths of an inch thick, are bound together with a piece of twine, the whole forming an elastic ring seven inches in diameter. A grooved reel revolving between a double handle completes the necessary apparatus.

To apply this to the arm, three or four complete turns of the elastic ring are wound tightly round the hand in such a manner as to include the fingers and thumb, care being taken that the turns lie even and do not cross one another. The reel is then put under the free portion of the ring connecting the upper and lower coil. The reel is passed round

and round the limb in an upward direction: thus each coil is unwound from below as another is added above. In this way four tight coils of india-rubber are carried up the limb to any distance required. The degree of tightness can be regulated with the greatest nicety by the distance the reel is drawn from the limb by the bandager.

This method of driving blood from the limb answers perfectly in the arm and in the lower part of the leg; but in carrying the bandage over the popliteal space the flexor tendons prevent the artery being effectually compressed. A firm pad in the space would probably answer the purpose.

To remove the bandage, it may either be unrolled by reversing the action of the reel, or the twine connecting its two ends may be cut with scissors.

A very neat little reel in a holder may be obtained at Ferguson's, in Giltspur-street.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum propriis collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

CHARING-CROSS HOSPITAL.

CASE OF CLONIC TORTICOLLIS TREATED BY THE CONTINUOUS GALVANIC CURRENT AND THE RHYTHMICAL EXERCISE OF THE AFFECTED MUSCLES.

(Under the care of Dr. POORE.)

THE following case is of unusual interest: first, because of its cause, which was the fatigue of over-worked muscles; secondly, because, from being a true and obvious clonic spasm, it subsequently assumed the character of a spurious tonic spasm; and, thirdly, because of the success which attended the treatment.

Catherine K——, aged thirty-four, a needlewoman, first came under observation in the out-patient room on the 27th of February, 1873. She then presented the following symptoms:—The head and neck were the subject of an almost incessant violent clonic spasm. The chin was turned towards the point of the left shoulder, and at the same time the neck was bent toward the left side. The left shoulder was elevated, and almost every movement of the neck was accompanied by a flexion of the left arm, which brought the left hand close to, or in contact with, the chin. The spasm was so frequent and so severe that a raw place, about the size of a sixpence, had been produced on the skin covering the left ramus of the lower jaw, midway between the angle and the symphysis, by the constant impinging of this point with the left shoulder. The patient also complained of pain—a sore pain, "like a broken bone," as she said, over the region of the left trapezius muscle, but chiefly at a point midway between the acromion and the occiput, and about an inch and a half posterior to the free edge of the muscle. There was also pain—"a feeling of weakness"—over the nucha. The pain was always present to a certain extent, but was much aggravated by movement. The spasms recurred about twenty times in a minute, the patient being utterly unable to prevent them. The muscles which seemed mainly at fault were the right sterno-mastoid and the left trapezius. The platysma on the left side also contracted strongly at each recurrence of the spasm.

The patient gave the following account of herself. Her general health has been good, but she has at times suffered from "toothache, neuralgia, and tic douloureux." In the month of June, 1872, her son—a little boy—was drowned, which caused her much mental worry, and in July, her husband being out of work, she had to slave very hard at her needle, "almost all night and day" she says. Her needlework is done with the hand, and not with the machine, and consists in sewing heavy materials; and she distinctly says that all the distress in doing such work is felt in the left arm, which constantly has to support the material, and not in the right hand which plies the needle. In this assertion the patient is borne out by other needlewomen who have been consulted on the point. It was in July, during the heavy work, that she first felt a slight unsteadiness and tremor of the head, with a tendency to rock from side to side.

It was in September, 1872, that she first felt the head twisted towards the left shoulder, and this slight twisting continued till Christmas, when, during a respite from needlework, it left her entirely for a couple of days. On the morning of the 26th of December, however, as she was preparing breakfast, her head was suddenly twisted so violently to the left that her whole body was compelled to follow it, and she was rotated forcibly on her feet. From this time the spasm has continued, and about the middle of January, 1873, her right arm, which had been getting weak, began to be spasmodically flexed at each turning of the neck. From that time her condition got gradually worse up to the period of her being first seen.

On Feb. 28th she was admitted into the hospital, and her treatment was commenced. A galvanic current generated by from six to twelve cells of a zinc-carbon battery, constructed by Messrs. Mayer and Meltzer, was applied as follows to the regions supplied by both spinal accessory nerves:—The positive pole was placed at the highest accessible point of the nerve behind the ear, between the ramus of the jaw and the mastoid process. The negative pole was moved over the whole region of the terminations of the nerve, from the sterno-mastoid muscle in front to the lower angle of the trapezius muscle behind. At the same time the muscles were exercised rhythmically, and the patient was made to shrug the shoulders, nod, and rotate the head, keeping time as she did so to the counting of the physician. During the passage of the current the spasms almost entirely ceased, and the movements were performed with scarcely any interruptions. The left arm also was exercised rhythmically during the passage of a current, one pole being held in the hand and the other being placed over the upper part of the cervical spine. The entire sitting occupied about twenty minutes.

Her improvement was marked and rapid. On March 1st she stated that "her head had hardly twisted at all since the electricity yesterday."

The treatment was repeated daily, and the pain soon completely disappeared and the spasms became gradually lessened. After a very few days the spasm became amenable to the voluntary control of the patient—that is, that as long as the head was kept turned *to the right* no spasm occurred, but if the chin approached the line of the sternal notch the head was suddenly twisted over to the left shoulder in the old style. At first the head was always kept *very much* over to the right side, and, to use the patient's expression, it was "only when she forgot herself," and allowed the head to assume a normal position, that the spasms occurred. The case, which originally was one of left clonic spasm, would have appeared about the middle of March to have merited the name of a right tonic spasm.

At present the spasms are only of very rare occurrence, and the head is carried so slightly turned to the right as to be hardly noticeable.

At first the patient could not sleep on her right side because that position brought the chin to the middle line, and spasm followed, and it was not till the middle of May that she slept on the right side, "the first time she had done so for many months."

The patient left the hospital on April 10th, being quite well enough to resume her ordinary household duties. She was warned, however, that any attempt to continue her old occupation of needlework would almost undoubtedly result in the return of her old symptoms. Since leaving the hospital she has attended as an out-patient. Cases like this are often thought to be malingerers. It is right, therefore, to state that this patient was carefully watched, and that she was seen by many of the medical staff of the hospital, all of whom agreed that the question of malingering was not tenable.

Dr. Poore regards the case as analogous in some respects to some cases of writer's cramp, the proximate cause of the symptoms being the tiring out of the muscles which support the left clavicular arch. The patient was a needlewoman, and accustomed to support heavy materials, often for hours together, on the left arm. The constant weight on the left arm is necessarily felt at the left clavicular arch, and the muscles supporting that arch are compelled to exercise their physiological functions for inordinately long periods at a time. The muscles implicated were the left sterno-mastoid and the left trapezius, and, as a consequence, they became irritably weak, and drifted into that condition which may be called a state of chronic fatigue. This condition of the muscles seems to have produced an irritable and painful condition of the spinal accessory nerve, for although this nerve is spoken of as being entirely motor in its function, it is nevertheless sensitive when irritated. There is no more painful process than the faradisation of the branch of this nerve which supplies the trapezius. With regard to the painful spot observable in this patient just beyond the border of the trapezius, it may be remarked that the pain was not aggravated by pressure, but very much so by contractions of the muscle. The irritation of the terminal branches of the left spinal accessory seems ultimately to have been reflected to the terminations of the nerve on the opposite side—its antagonist—and to have produced spasmodic contractions of one of the muscles supplied by it—viz., the right sterno-mastoid. When the patient was at her worst, the right sterno-mastoid was constantly overcoming the antagonising action of the left sterno-mastoid, irrespective of the position of the head; but as the patient improved, and the left sterno-mastoid recovered its normal tone, she was able to prevent the spasm by constantly keeping the right sterno-mastoid at a *mechanical disadvantage*. At first the head was kept twisted very much over to the right, so that with an imaginary line connecting the two mastoid processes of the skull, the right sterno-mastoid muscle formed an angle more acute than would have been the case with the chin in the middle line, while the angle included by the same imaginary line and the left sterno-mastoid was more obtuse than would have been the case had the head been carried in its normal position. Gradually, as the patient improved, the difference between the two angles formed by the two sterno-mastoid muscles and the imaginary line got less and less, and at present there is scarcely a degree to choose between them.

At first the head was invariably jerked over to the left the instant that the chin was allowed to approach the middle line. Now, however, spasms are of very rare occurrence, and only occur "when she is flurried." With *the head in any position* she is now able "by taking thought," to prevent the occurrence of the spasm.

Acting upon this theory, the first indication in treatment was to remove the cause, and the patient was accordingly enjoined on no account to do any hand-sewing again, although she has been permitted to work a little with the sewing-machine. Secondly, it was attempted to restore the fatigued muscles to their healthy condition, and the continuous current has admirably fulfilled this object: its great potency as an anodyne removed the pain; it suppressed the spasm during the period of its application, and it probably increased the afflux of blood to the muscles. The opportunity of subjecting the muscles to regular rhythmical exercises, at the only time when such exercises were possible, being taken advantage of, their perverted nutrition was speedily restored to its normal state, and the patient rapidly improved.

HIGHGATE INFIRMARY.

AMPUTATION AT THE SHOULDER-JOINT FOR UNUNITED FRACTURE OF THE HUMERUS.

(Under the care of Mr. H. A. LEDIARD.)

CASES of ununited fracture are fortunately rare, and still rarer are those cases in which removal of a limb is necessitated for such a condition. The humerus fails to unite as frequently, if not more frequently, than the femur; and these two bones present non-union after fracture oftener than any other.

The following case is interesting, not only on account of the morbid state requiring operative interference, but also by reason of the rapid recovery made by a patient of advanced years.

Michael C——, aged sixty-two years, has been an inmate of the Highgate Infirmary for more than two years, having been admitted for a recent fracture of a simple nature, involving the lower third of the left humerus. The usual treatment failed to produce union, and four months before the operation a fistulous opening was established at the insertion of the deltoid of the affected arm, which was soon followed by the formation of an abscess in the axilla, which continued to discharge with the other opening.

The patient, who for some years has been subject to chronic bronchitis and emphysema, began to fail under the daily discharge, and was anxious for the removal of a limb which for so long had been only an encumbrance. It was thought at one time that a chance might be afforded by some interference short of amputation, but the discharge from the arm seemed to indicate considerable osseous change, and at the same time, at the patient's advanced age, a resection would have probably proved worse than failure. The limb presented the following points worthy of note:—Hand, forearm, and arm wasted; elbow stiffened at a right angle; fracture very movable on manipulation, with considerable tenderness on pressure; discharge coming from openings in arm and axilla.

The operation contemplated was an amputation at the upper third of the arm, and the condition of that portion of the shaft above the fracture affording room for doubt, it was considered that a high amputation with subsequent removal of the head of the bone, if necessary, would give the old man the best chance of recovery.

Operation.—The patient having been previously treated for a few days with powders containing rhubarb and bicarbonate of potash, was, on the 15th of August, placed upon the table, and chloroform administered. Anterior and posterior flaps were then cut by transfixion, in the upper third of the arm. Lateral flaps were avoided on account of the opening on the outer aspect of the arm, otherwise they are perhaps preferable. The saw passed through the bone with remarkable ease, and, on examination of the remaining portion, it was found to be in a disorganised condition. The head and remaining portion of the shaft (about two inches) was then carefully removed by passing the knife round the bone until the joint was reached, and disarticulation effected. The joint was perfectly healthy, but a large quantity of pus escaped from the floor of the axilla. The bleeding having been arrested, the somewhat redundant flaps were stitched together, and the stump dressed with dry lint.

The patient bore the operation well enough, but was somewhat faint on removal to bed. The after-treatment consisted in free stimulation from the first, together with small doses of quinine and opium combined. The margins of the flaps showed a ready tendency to unite; but the cavity of the wound discharged freely for the first ten days, subsequently becoming much less in quantity and healthier in character. The condition of his chest gave cause for some anxiety, for his cough was occasionally very urgent, the sputa being frothy and copious. On the fifteenth day his pulse was standing at 86, and he was out of bed for an hour with his clothes on. It remains only to be said that the stump has nearly healed, and the man pronounced convalescent.

On examination of the amputated limb, the seat of fracture was united by fibrous tissue of cartilaginous hardness, and the entire shaft hollowed out, leaving a thin circumferential shell of a very fragile nature; there was no trace of the medulla, but the lining membrane, thickened and thrown into folds, contained numerous free cysts of the size of small grapes, with an opalescent and thin wall, and contents of a serous character, showing fatty granules under the microscope.

Remarks.—The want of union in this case may be ascribed to the age of the patient, associated with general debility consequent upon the condition of his bronchi, at the same time not overlooking the decided tendency to arterial degeneration. The disuse of the limb probably hastened on those degenerative changes found in the humerus. It has been stated that the presence of arcus senilis contra-indicates the administration of chloroform, but in this case, where each cornea presented well-marked fatty degeneration in its upper part, the anæsthetic was well borne and apparently taken with perfect safety. With regard to the operation, the high arm amputation, followed by enucleation of the head of the bone, may have diminished the shock to the patient. A similar course has been adopted to diminish the shock in a case of amputation at the hip.*

BRISTOL GENERAL HOSPITAL.

PRUSSIC ACID POISONING; DEATH; AUTOPSY.

FOR the following notes we are indebted to Mr. J. Howell-Thomas, physician's assistant.

R. F——, aged forty-four, was brought to the hospital at 12.55 P.M. August 26th, dead. The history of the case was as follows:—A few minutes past twelve he was suddenly observed by some people who were with him to fall down in what they thought was a fit. He became insensible. They gave him brandy, and sent for a medical man, who, on arrival, found the man insensible, skin cold and clammy. He was supported in a chair, but was quite unconscious. There was convulsive respiration at intervals, which was the only sign of life. From the circumstances of the case the medical attendant was induced to search the patient's pockets, when he found an empty ounce bottle, *corked*, and labeled "poison." On smelling it, he at once detected prussic acid. He says he could not smell it in the man's breath on account of the brandy that had been given him. He observed no tetanic convulsions, nor was there any escape of fæces or urine. He had him put in a cab and brought to the hospital, but the patient died before arrival there. He did not give a scream or any cry before death.

On admission, he was quite dead. There was a quantity of froth about his beard and mouth, but for the reason before given there was no smell of prussic acid. His face was blanched; the eyes were open and glistening; the pupils were dilated; the jaw had fallen. It was ascertained that he had been carrying the bottle about with him for at least three weeks, so that its quality must have become deteriorated, or he would have hardly survived so long as he did—namely, from thirty-five to forty minutes. The exact strength of the poison could not be discovered, but it was in all probability an ounce of the ordinary Pharmacopœia acid. The symptoms could not have been instantaneous, or he could not have corked the bottle and put it in his pocket. One of the people in the room observed him stoop down behind a desk some minute or two before he fell down.

Autopsy, twenty-two hours after death.—The body was that of a well-nourished, full-grown man. There was some discoloration of the skin at the back of the neck. Necrosis of the right tibia existed, which had been going on for twenty years. On removing the skull there was an odour of the acid. The dura mater was not injected. The veins were full of dark liquid blood. The substance of the brain was pale. Serous fluid was present in the ventricles, which, on being examined for the acid with the sulphate of copper and nitrate of silver tests, gave the usual reactions. The lungs were very œdematous, frothy, and gorged with dark liquid blood. There were some pleuritic adhesions to the right wall of the chest. There was no distinct odour of the acid about either the lungs or heart; the latter weighed sixteen ounces, and was empty. On opening the abdominal cavity there was a distinct odour of prussic acid. The stomach was almost empty of contents; what little there were showed, on being tested, the presence of hydrochloric acid. There was no trace of prussic acid. The stomach itself was not analysed. There were some patches of congestion on the walls. The duodenum and ileum also showed some patches of congestion, but nothing else was noticed in the alimentary canal. The liver weighed four pounds fifteen ounces; substance somewhat fatty; slightly congested; faint odour of prussic acid. The bile in the gall-bladder was not coloured blue. The spleen weighed eight ounces, and was soft and congested. The weight of both kidneys was thirteen ounces and a half, and they were congested. The capsule readily peeled off. There was an odour of the acid about both spleen and kidneys. The blood throughout the body was everywhere fluid; there was no coagulation.

* In a case requiring hip-amputation in the Edinburgh Infirmary some years ago, Mr. Annandale amputated in the upper third of the thigh, at Professor Lister's suggestion, and subsequently removed the remainder of the femur from the joint.

Reviews and Notices of Books.

On Megrim, Sick Headache, and some allied Disorders: a Contribution to the Pathology of Nerve-Storms. By EDWARD LIVEING, M.D. Cantab., &c. London: J. and A. Churchill. 1873.

On Nervous or Sick Headache: its Varieties and Treatment. By P. W. LATHAM, M.D., F.R.C.P., &c. Cambridge: Deighton, Bell, and Co. 1873.

DR. LIVEING'S volume is a most welcome and most valuable contribution to scientific medicine, and will prove a very lasting monument of the honesty, the originality, and, above all, of the industry of its author. The work has been ten years in preparation; the author has had ample time to digest the opinions of previous and contemporary writers, and to thoroughly consider and bring to maturity his own views on the subject. Moreover, the canons of logic are, as far as is practicable, strictly adhered to, and, as a natural consequence, the reader, while enjoying that repast which Dr. Liveing's deep learning has provided for him, is never

offended by crude thoughts and false inductions. The book is in every respect first-rate. On the fly-leaf are half-a-dozen quotations from medical writers of repute, and notably one from Piorry's "Mémoire sur la Migraine," which seems to us to apply with great force and truth to the volume before us:—

"Or, tel est le sujet de ce mémoire, sujet qui présente pour moi d'autant plus d'importance qu'il me paraît devoir éclaircir quelques points de l'histoire des névroses. ..... La physiologie et la clinique, comparées, rapprochées, forme par leur ensemble un flambeau qui éclaire plus d'un point où l'anatomie pathologique n'a pas encore porté de lumière."

It is not likely that pathological anatomy will ever throw much light on the subject of megrim, or that this disease will cease, for many years to come, to be classed among those which in our ignorance we designate "functional." Books like the one before us serve at least to show us what is the proper nosological position of megrim, and enable us to form some idea of the nature of the changes which occasion its great variety of symptoms. We have no hesitation in saying that those physicians must be few and far between who can rise from a perusal of Dr. Liveing's book without a sense that they have increased their knowledge and widened their view, not only of megrim, but of neurotic diseases generally. The territory of megrim has been during the last ten years invaded, as it were, by several skirmishers of great ability and repute, but none have as yet managed to establish themselves firmly as masters of the situation. Mere on-lookers were fairly puzzled, as well they might be, by the variety of opinions expressed by men all highly qualified to speak. When Du-Bois Reymond stated that his own megrim was caused by a tetanic condition of the cervical sympathetic, it was impossible to doubt the accuracy of the observer. We were bound to believe Dr. Anstie when he said that megrim was a neuralgia of the trigeminus, and Dr. Latham, when he stated it to be due to excitement and subsequent paralysis of the sympathetic; but we were, perhaps, more prone to follow the less explicit and more general explanation of Dr. Wilks, who says "that the true cause of sick-headache is developed by a hundred different causes," or of Dr. Clifford Allbutt, who regards it as "a complex affection, in which cephalic and abdominal disorder go hand in hand." Dr. Liveing has shown us that the view of the disease hitherto held has been too narrow, and that while the observers quoted above are all free from the charge of inaccuracy, they nevertheless failed to take a comprehensive view of that natural *group* of disorders to which henceforth the name of "megrim" will be attached. The discussion of this group forms the subject of the first chapter; and Dr. Liveing brings forward many cogent arguments for regarding (1) simple hemicrania, (2) sick-headache, (3) blind-headache, and, lastly, the more severe form which is complicated by symptoms of a paralytic and aphasic character, as merely members of one group. In the second chapter the pathogeny of the disease is very ably and minutely discussed; and in the third the various phenomena of the paroxysm, ordinary and extraordinary, are given with equal minuteness and ability. In the fourth chapter the author shows "the intimate relations of megrim with the whole family of neurosal disorders, of which epilepsy is the type, including epilepsy, epileptic vertigo, spasmodic croup, spasmodic asthma, angina pectoris, gastralgia, tic douloureux, intermittent and paroxysmal insanity," and others. This is one of the most interesting and suggestive chapters of the book; and although it contains nothing which is absolutely new, so many old facts have been collated and have been made to enter as it were into new combinations and relationships that the reader is made to feel the utility of going over old ground with a new guide.

In the fifth chapter the Pathology of Megrim and allied disorders is treated of; and the pleasant style and erudition of the author make the reader oblivious of his slight prolixity as he discusses the various theories from the "humoural" of the middle ages to the vascular theories which have been put forward in these present times by Du-Bois Reymond, Möllendorff, and others. It is in this chapter that the author makes his "contribution to the theory of nerve-storms."

"This view (he says), I should add, is by no means new; it has been often suggested before, though in a fragmentary way, and I chiefly aim at presenting a more connected statement and illustration of it than has yet been given. When we fail in our efforts to refer any train of natural phenomena to well-recognised principles of cause and effect, we may sometimes succeed, by comparing them with others of a similar kind, in discovering some common principle or law to which they conform. ..... In applying the designation 'nerve-storms' to neurosal seizures, let me repeat that it has been no part of my intention to attempt a physical explanation of the phenomena or to press the analogy it suggests very much beyond an illustration. It was adopted in the first instance as a concise expression or summary of certain facts in their history."

These facts may be briefly stated as follows:—1. The paroxysmal, and in many cases truly explosive character of the symptoms. 2. The intermittent and periodical nature of the attacks, which, according to Dr. Liveing, are caused by the irregular accumulation and discharge of *nervous force*. 3. The impunity with which a sufferer may expose himself to various influences for a certain period after a seizure which at another time would infallibly have occasioned an attack. 4. The nature and variety of the different agencies which act as exciting causes are of such a kind as to render their operation only intelligible on some such notion as that of a gradually increasing instability of equilibrium in the nervous parts; when this reaches a certain point, the balance of forces is liable to be upset and the train of paroxysmal phenomena determined by causes in themselves wholly inadequate to produce such effects. 5. Dr. Liveing holds it to be an additional argument for his theory that those who adopt the more material theories are nevertheless obliged to assume a minor degree of that same kind of morbid irritability or explosive tendency in the nervous system as the point of departure of the seizure.

The analogy of nerve-storms to healthy nervous actions is discussed at some length. First, the act of *sneezing* is likened to a nerve-storm; but we must say that, with the exception of the explosive character of the paroxysm, we fail to see that "the natural operation of sneezing" presents any other of the characteristics which Dr. Liveing has enumerated. Secondly, we have in the natural development and gratification of our appetites—alimentary, respiratory, and sexual—another instance of the gathering and dispersion of a somewhat different class of nerve-storms of the sensory type. Thirdly, it is in the emotions and their bodily developments that we meet, perhaps, with the most striking instances of physiological nerve-storms. It is pointed out that many of these physiological neuroses may be replaced by others—sneezing may supplant hiccup, anger may overcome appetite, fear may quell nausea, or, again, physiological neuroses may cause or stop morbid neuroses, and *vice versâ*. These facts, Dr. Liveing affirms, serve to strengthen his theory. The most interesting fact which is pointed out in this section is, that physiological neuroses resemble their morbid congeners in the occasional quality of infectiousness. "We all know how involuntarily and often unconsciously the act of yawning, if once started, will go the round of a whole circle of people.....It is much the same with the act of coughing.....The same influence

may be observed in connexion with the sensations and movements of sickness." Laughter and anger are also well known to be infectious. Many of these analogies, although of much interest, and affording considerable food for reflection, seem to us to be somewhat overstrained, and scarcely to fulfil those conditions which Dr. Liveing demands for the constitution of nerve-storms. The object of the theory seems to be to make the nervous system primarily responsible for the seizure, and all the phenomena of the seizure dependent upon the primary centric derangement. Dr. Liveing is bold when he speaks of nervous force as an entity, and we question the advisability of attempting to exalt the nervous system into an organisation which is capable of being considered apart from, and without reference to, all other parts of the economy. With regard to the anatomical seat of megrim, Dr. Liveing infers, from a consideration of the phenomena of the paroxysm, that it is limited for the most part to the sensory tract and the ganglia of the sensory nerves, from the optic thalamus above to the nucleus of the vagus below.

Dr. Liveing's treatment of the disease is rational. "Our aim," says he, "must be twofold: first, to lessen the tendency to explosive action in the nervous centres; and, secondly, to avoid or remove the exciting causes of the seizures." This he tries to accomplish by means of hygienic measures and drugs; but there is little that is new in this part of the volume, and Dr. Liveing admits that the treatment of the disease is unsatisfactory, and the effect of therapeutic measures is often capricious.

At the end of the volume will be found a table of sixty-seven cases of megrim, giving the chief symptoms and other points of importance in connexion with each case. There is also an excellent chromo-lithograph of the spectral images observed by a certain proportion of migrainous patients, which has been copied from Dr. Hubert Airy's paper on that subject.

It is unfortunate that Dr. Latham's two lectures have been published coincidently or nearly so with Dr. Edward Liveing's work on Megrim, since the latter must of necessity throw into the shade any other treatise on the subject. Dr. Latham's views on megrim are pretty generally known. He refers the phenomena to the excitement and subsequent paralysis of the cervical sympathetic. The prodromata, such as the irregularities of vision, &c., are caused by the contraction of the cerebral vessels accompanying the excitement of the sympathetic, and the headache to the over-distension of the cerebral vessels, which is the natural consequence of the paralysis of the cervical sympathetic.

On the Convolutions of the Human Brain. By Dr. ALEXANDER ECKER, of Freiburg. Translated by JOHN GALTON, of the West Riding Asylum. pp. 70. London: Smith, Elder, and Co. 1873.

THIS is a little *brochure* that well repays the trouble of the translator, and should be in the possession of every practitioner. The nomenclature of the convolutions and sulci of the brain has been far too much neglected, and is taught as it should be taught in but very few of our dissecting-rooms. Every reader of reports of post-mortem examinations must have felt how difficult it is to understand the exact position of lesions described as being on the "upper and outer" or "posterior and inferior" part of the brain. This difficulty should now no longer exist. The labours of Gratiolet, Tiedemann, Serres, Meynert, Huxley, Turner, and the author of the work before us, have led to the application of names that are now very generally admitted, and should be adopted in every description of these parts. The value of such differentiation is strikingly exhibited in the record of the experiments of Dr. Ferrier just published in the Reports of the West Riding Lunatic Asylum, and in the clinical researches of Dr. Hughlings Jackson, which without such helps would be much more difficult to follow. Dr. Ecker gives a series of drawings of the upper, outer, lower, and median surfaces of each hemisphere, in which the sulci and convolutions are boldly mapped out. The text contains a description of each of these, with their synonyms, which are fortunately not very numerous. Where an alteration has been made from the nomenclature of Gratiolet and Huxley, the change in general appears to be judicious. We cordially recommend the book to our readers.

REPORT
OF
The Lancet Sanitary Commission
ON THE
OUTBREAK OF TYPHOID FEVER AT WOLVERHAMPTON.

WE have felt it to be our duty to institute an independent inquiry into the circumstances of the recent outbreak of typhoid fever in the town of Wolverhampton,—partly on account of the gravity of the case, and partly because of the contradictory statements which have been made in regard to it. We regret to say that our inquiry has been much hindered by the extraordinary course which the Sanitary Committee of the Town Council has thought it right to pursue. On visiting Mr. Love, the medical officer of health for the borough, he informed us that he had been directed by the committee to withhold all information bearing upon the sanitary state of the town. We have therefore been compelled to trust for knowledge to the results of our own observation, and to the facts placed at our disposal by the other medical men of the town. To the courtesy of these latter gentlemen we are deeply indebted, and, thanks to their assistance, we find ourselves in a position to place before our readers all the essential points in the case. We give the sanitary particulars first, as a natural introduction to the history of the epidemic.

The town of Wolverhampton numbers nearly 70,000 inhabitants. About a year ago it consisted of 210 streets and 600 courts, containing altogether 12,000 houses, of which it is said that about 9000 derived their water-supply from a public company. Of the quality or quantity of this water we cannot speak with certainty at the present time, but the character of the well-water upon which the remaining houses depend will be sufficiently indicated in the course of our narrative. A system of sewerage has been adopted, and all the principal streets are drained by sewers which seem fairly well ventilated. A very large number of the houses are, however, as yet unconnected with the sewers. The sewage is carried to a farm some three miles off, where it is used in land irrigation.

Of the houses which do not drain into the sewers some are provided with cesspools, but in the majority the sanitary arrangements are of the simplest and most disgusting kind. One or two privies, often in a horrible state of dirt and dilapidation, stand by the side of, and discharge into, a large and deep "ashpit," often capable of containing many cart-loads. These ashpits are the curse and disgrace of the town. They receive all the refuse of the houses, and, as a matter of course, emit a stench which is beyond description. At irregular intervals they are emptied by the town scavengers, and the manner in which this operation is effected is,

in the most literal sense, "a caution." The accumulated filth of the pit is ladled out on to the pavement of the court with a kind of magnified soup ladle. Whatever is solid enough is then shovelled into carts, the rest flows in a black and fetid stream to the nearest surface gully. Then comes a handful of disinfecting powder, and the beautiful process is over. Very often the pit is only partially emptied, and the residue, well stirred up, is left to salute the eyes and noses of the unlucky inhabitants. We confess we did not witness this great sanitary operation, and cannot altogether regret it; but in more than one court we saw the black greasy smear on the pavement, and we had the description from so many eye-witnesses that we cannot doubt its accuracy. When we add that each house in the court commands, as a rule, a full view of the public privies and their inseparable ashpit, it will readily be believed that the effect of the whole vile arrangement is and cannot fail to be as injurious to public morals as it is to public health. It would be difficult to devise a system better calculated for the spread of zymotic diseases, and we cease to wonder at the ravages which small-pox, scarlet fever, typhoid, and diphtheria commit in the town. In too many courts the well and pump still linger in fatal proximity to the pit. The borough analyst reports that the water is "contaminated." Of course it is contaminated. It is almost waste of time to analyse such water, for a single glance at the pit or cesspool which stands next the well, or a moment's thought of the foul soakage which the porous soil must receive from every house, is sufficient to indicate the character of the water.

In justification of the strong language which we have been compelled to use in describing the lower quarters of Wolverhampton, we quote a few pages, almost at random, from our note-book. In looking over these rough memoranda, jotted down in the hundred or so of courts through which our guide led us, we are struck by their monotony. "Ashpit," "well," "stink"; the words recur again and again, and indeed there were few others to use beyond the occasional complaint of a widowed wife or childless mother. This is how the thing reads:—

"Court in Horse Fair.—Foul ashpits; open gutter which carries off drainings.

"St. Peter's-square.—Foul privies and ashpits, which exude into the court. Pump in the middle of the court.

"North-place, North-road.—New; better than most. Ashpit one yard from house. Pump four yards from ashpit.

"Stafford-street.—First court entered: Honeycomb of cesspools and ashpits; one pit exactly under bedroom window.—Another court: Looks better; well built. Deep and foul ashpit. People will not stay in next house. One house below level of court. Privies leak directly into sitting-room. Well fourteen yards from ashpit. Two privies for the fourteen houses.—Another court: Rather better. Another court: Ashpits horrible. Tap water.

"Castle-place.—Irish population. Tap water. Filthy privies. General smell of ordure.

"Back-lane.—Two taps for some fifty houses or so. Fight for water every morning.

"A court in Lichfield-street.—Cesspool filled to level of court."

And so on, page after page. In many courts the pits were partly filled with slimy fluid. In one the stench was so overpowering that we were compelled to shrink back. An unhealthy-looking woman told us it had made her sick that morning. The well which supplied the whole court was four yards from this tank of filth. Cases of small-pox had in some cases occurred, during the last epidemic, in every house in a court. One particularly filthy privy had "Bakehouse" inscribed upon it, the words referring, we found, to a miserable shed which stood next. In one court one tap, and that a very small one, yielded the sole supply of water for nineteen houses; and pages might easily be filled with similar records. But it would be useless to multiply examples, and we need only add that if any of our readers are inclined to accuse us of exaggeration in regard to those we have given, they have only to walk through the localities we have named, or indeed through almost any of the courts of the town, to be fully satisfied.

After what we have said we are glad to be able to add that the medical men of the town, and many members of the Town Council also, are fully alive to the evils which surround them. Considerable progress in sanitary reform has already been made, and more will follow. But the rate of progress bears no kind of relation to the magnitude of the evil. A town which boasts the wealth and importance of Wolverhampton should feel as a disgrace every day which delays the extirpation of such foul abuses. It is a sudden and complete change in these quarters that is wanted, and not a mild tinkering. The sham reform which, finding a pestilent ashpit, sends a man with much parade to whitewash it outside, should give place to a real one. The pits should be swept away, and the handles taken off all the pumps, and proper substitutes for both provided without delay. Until all this is done the Town Council has no right to waste time in talking of difficulties or counting the cost of the alterations.

We may now consider the circumstances which give importance to the recent cases of typhoid fever in the town. The occurrence of a certain number need occasion no surprise when we remember the insanitary conditions which prevail, and, indeed, deaths from typhoid seem to have taken place in almost every month of the present year; but there are points connected with some of the recent cases which are of grave importance when viewed in the light afforded by our recent London experience.

Well-marked cases of the disease occurred during the month of July in Brook-street, a wretched slum situated just behind the lower end of Darlington-street, which is one of the principal thoroughfares of the town. A main sewer, formerly a water-course known as the Black Brook, passes under Brook-street into Darlington-street, where it forks into another sewer which runs down the latter street. It appears to be admitted by everyone that the middens of Brook-street drain somehow into the sewer; indeed, our informant stated that they were always dry. The Black Brook, contaminated in this way, runs exactly under the yard and a portion of the house of a dairyman living in Darlington-street. We visited this house, and going into the cellar saw and touched the brickwork of the sewer. At the bottom of the stairs, close to the sewer, we saw the well which supplied the dairyman's family. The water of this well has recently been analysed and found to be very bad, and there can be no doubt that it receives direct contamination from the sewer. The sanitary arrangements of the whole premises were of a disgusting kind.

Early in August typhoid appeared in the dairyman's family. Four cases occurred in it, and the dairyman was strongly urged by his medical attendant to stop the sale of milk. Unfortunately he did not take this good advice, and it appears certain that the result has been the introduction of the disease into some houses which would otherwise in all probability have escaped. Many of the cases occurred at a considerable distance from the centre of infection, and the medical officer of health, together with nearly all the other practitioners of the town, concur in the opinion, first suggested by Mr. Manby in a letter to the *Wolverhampton Chronicle*, dated August 19th, that the milk was in these cases the immediate cause of the disease. We inquired carefully into the particulars upon which this opinion was founded, and were unable to resist the conviction that it was in the main correct. We do not think it necessary or desirable to trace the separate history of these cases. It will be enough to quote Dr. Frazer's experience as he gave it to us. Up to the 1st inst. he had met with eighteen recent cases of typhoid in his practice in various parts of the town. Of these, fifteen occurred in persons who had used the suspected milk.

Very little need be added to these conclusions. That the milk cannot be held liable for the origin, or for the whole of the spread, of the epidemic is obvious; but, on the other hand, it appears pretty certain that it did a good deal of mischief which might and ought to have been prevented. Some allowance may well be made for the dairyman, himself a sufferer by the epidemic, though of course we must blame him severely for not having stopped the issue of milk at any cost to himself. But the deepest blame attaches undoubtedly to the sanitary authorities of the town, who, after the repeated warnings conveyed to them by previous epidemics and the reiterated complaints of the members of the medical profession, continued to tolerate a system so noxious as that which we have sketched.

IN Vienna there were from the 16th of July 3020 cases of cholera, of which 1230 proved fatal. The latest accounts show that the disease is sensibly abating.

INTRODUCTORY ADDRESSES DELIVERED AT THE PROVINCIAL MEDICAL SCHOOLS.

QUEEN'S COLLEGE, BIRMINGHAM.

MR. CLAY, after acknowledging the honour the Council and Professors of Queen's College had conferred upon him in requesting him to deliver the inaugural address of the session, and giving a hearty welcome to all present, referred to the prosperous condition of Queen's College. Mr. Clay then mentioned the happy accomplishment of the consolidation of the Birmingham Medical School into one institution, and the union of the medical staff of the General and Queen's Hospitals in one clinical board, for the purpose of directing the hospital instruction of the students, and he indulged the hope that in time the reform would be recognised as a means of reconciling conflicting interests and allaying professional jealousies, and that the future of the profession would be harmony and goodwill.

The lecturer then proceeded to make some observations on the subject of public health. This was a question vitally important to the community, individually and collectively, and of primary importance to the medical profession. The maintenance in a state of purity of the three great factors of human life—air, water, and food—constituted the chief aim and purpose of the legislation on public health, and commended itself to every individual, as well as to the community generally; for the regulation of public health lengthened life, lessened disease, and increased vital force and productive vigour. Laymen were interested directly and personally in the progress of sanitary science, as being members of the local community and as citizens of the nation. To the medical profession, however, the cultivation of sanitary science was of special interest and importance. The lecturer then briefly reviewed the history of public health legislation, from the time of Richard II. to the present day, and referred to the penalties imposed upon Shakspeare's father, on two occasions, for depositing filth in the public street, as examples of salutary punishment in ancient times. Coming to the Public Health Act of 1872, Mr. Clay said that sanitary work, to be effective, must be to a considerable extent a matter of central administration, and rendered independent of local interests, prejudices, and influences; and it may be hoped that the beginning made by recent legislation may soon lead to the constitution of a real Minister of Health, having charge of all agencies, and some control over voluntary as well as compulsory machinery. The increasing knowledge and interest displayed on the part of the public in sanitary matters must tend to stimulate and strengthen the action of the Government, which has hitherto fallen behind, rather than been in advance of the requirements of the country. This want of skill and strength is strikingly displayed in regard to a part of the subject which just now interests Birmingham very deeply—the treatment of sewage and the disposal of the refuse of great towns. The Sewage Committee of the borough, in the Bill which they presented to Parliament, came to a very fair solution of the difficulties which beset the consideration of the sewage question; and if the measure had not received an ignominious rejection by Parliament it would have been a safe guide to the central sanitary authority as to what should be undertaken by urban governing bodies under such circumstances. Here Government should have stepped in, either by rendering efficient assistance to the local scheme, or by laying down the principles of some general plan for meeting the difficulty and overcoming the opposition of individual landowners. Mr. Clay proceeded to point out how Government should prevent such hindrances to the effectual carrying out of sanitary legislation, how a considerable amount of organic refuse might be systematically destroyed by fire in individual households, and concluded his address by calling on the members of the profession to instruct the heads of families and individuals in the science of preventing disease in their own households, showing how the health of the community depends upon individual action, pointing out to the profession the important, honourable, and responsible positions held out to them, and how, by conscientiously and fearlessly discharging these duties, they may become public benefactors, strengthening vital force and prolonging human life, under the conditions of health and vigour which make life worth having, and added: "This is the tendency of legislation as regards the future of our profession. Let each one of us, in his own way, accept the responsibility, and endeavour worthily to fulfil it."

UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.

AT the opening of the winter session of the University of Durham College of Medicine, Newcastle, Dr. ARMSTRONG delivered the inaugural address. After alluding to the use of stimulants, and counselling the students to be cautious in recommending them to patients, Dr. Armstrong proceeded as follows:—The abuse of medical charities was a subject on which he might write a very imposing column, and it would still remain unexhausted. The absurdities to be met with in hospital or dispensary practice were so great as almost to trench on the ridiculous. At one of the charitable institutions one patient had promised, if cured, to leave him a house when he died. His friend was now enjoying the best of health, and had what would keep him comfortably, but he had not yet handed over the deeds of the house. But already attention had been directed to this subject, and he would leave it in the hands of the public, making one further remark—namely, that until the subscribers were aware that their responsibilities only commenced when their subscriptions were paid, this abuse would continue. It was for the subscriber to see whether any applicant was a fit and proper person to be recommended to any medical charity. There was another abuse which he had watched for many years, and which he had never even alluded to anywhere—it was the abuse of sick benefit clubs. Of course there could be but one opinion as to the proper use of sick benefit clubs. Too much could not be said in their praise as teaching the working men to lay up for a rainy day. But it became a very suspicious circumstance when they found a person a member of four or five different societies. They found that such men were, as a rule, often sick, and were not often anxious to return to their employment when once upon the sick list. But this demoralising tendency was not all. Unfortunately for this class, a certain sum of money was allowed on the death of any member—a sum considered as amply sufficient to defray the necessary expenses of a funeral in their station of life; but when that sum was multiplied four or five times, according to the number of societies the man or the woman, or both, might be connected with, a considerable surplus was the result. Thus a premium was offered on the death of every infant in the family, the effect of which was more terrible than anyone could conceive. It was only among the drunken and depraved this temptation could ever bear its fruit, but they knew how numerous in all their large towns was this class. Although they would not positively murder their children, yet they allowed them to die. He would not like to guess even the number of times he had been called to see children in a dying state, and the invariable answer given, when asked why he had been sent for at such a time, was, "Well, sir, we shall want a few lines." "The lines," and not the child's life, were the cause of their anxiety. With these startling facts before them, could anyone doubt the effect they would have on the infant mortality of their large towns? In order to prevent this, he called upon them to exert their influence to the utmost. In his opinion no sum of money to be obtained from benefit clubs or insurance companies could, upon the death of a parent, be too great; but rules should be introduced making it penal for anyone to obtain, for the death of a child, more than was deemed a sufficiency, as well as for the security of the societies themselves as for the protection of the infant population.

LEEDS SCHOOL OF MEDICINE.

MR. SCATTERGOOD said he regarded the presence there of many not directly concerned in the work of the School of Medicine as an evidence that its existence for considerably more than a generation had attached them to it by ties of friendly interest and sympathy; and the assurance of this

afforded unfeigned satisfaction. A successful career of two-and-forty years sufficiently justified the wisdom of the eminent and sagacious men who founded the school. In reviewing the changes which had taken place in the methods of medical education in that period (during half of which he had had the honour of being a teacher in that school), the principal one seemed to be the greater attention paid to "practical instruction." The modern education required from the student not perhaps less reading but more doing, more employment for his hands and his senses in proportion to that for his memory. The student had not got less to do with written books, but he was more constantly referred to the great book of Nature, with which he was to compare them, thus beneficially becoming more of an active seeker after knowledge, and less of a passive recipient of information. This gave him more of the *locus standi* of an original observer. Every student, for instance, who dissected his parts carefully and conscientiously, might be said in a sense to rediscover for himself the facts of human anatomy. With this assumption of the character and spirit of original inquiry there came some of the pleasure attaching to it, as well as still greater benefit in the discipline it gave to the mind. The exercise of the faculty of observation was anexcellent antidote to the lethargy which was apt to creep upon the mind by cramming book knowledge into the memory with too hungry haste.

On the subject of public health Mr. Scattergood said:—"The idea of preventive medicine originated in the mind of our profession, and has there been fostered and nourished. Fed by all the stream of new discovery and enlarging thought, and by all the warmth of devotion to a cherished purpose of philanthropy, it has grown and developed into many branches of practical application. To those indicated might be added all that relates to the hours of labour, the unhealthiness of certain occupations, and many others. On all such points we have endeavoured to inform the intelligence and to stimulate the conscience of the country, raising the old adage that 'Prevention is better than cure' from a dead proverb in the mouth into a living conviction in the thought. And now that this has taken form and action in the shape of an Act of Parliament, the thought arises, 'Will the grave questions relating to public health be henceforth dealt with by their administrators in a large and earnest and scientific spirit?' By the general consent of all who are competent to judge, the medical officer of health (unless in the case, which ought but rarely to exist, of a very limited area or a very small population) should be unfettered by private practice. He will thus need to be more adequately remunerated for his services, and this being done, candidates for the post will feel the necessity of qualifying themselves by a special course of training, which it now therefore becomes the governing bodies of the profession to provide, or to encourage and direct; and further, to furnish by means of some diploma or certificate a guarantee of individual fitness and a warrant for public confidence. The University of Dublin has already instituted a 'qualification in State medicine.' The examination which candidates for this qualification are required to undergo embraces a limited course of the following subjects:—Law, engineering, pathology, vital and sanitary statistics, chemistry, meteorology, and medical jurisprudence."

After some judicious words of advice to the students present, especially as to raising their average of success before the examining bodies, the lecturer concluded as follows:—"To revert once more to the considerations which I laid before you in an earlier part of this address, is their interest confined merely to us who are practitioners, or who are only outside observers? So far is this from being the case, that it is the students of to-day, and even the youngest of them, whom the present position of scientific research and progress in medicine most concern. Is the field of observation widening every day? It is to you that its cultivation will be entrusted in the future. See to it that you appreciate its extent, and that you now prepare yourselves for the labour which the coming age demands of you. Every man is a debtor to his art; and what he has received from the past generation he is bound to repay with usurious interest to the generation which will follow him. Have the last few years seen a greatly increased number of workers, and an intensely quickened condition of mental activity? Then remember, that with the increasing spread of knowledge and of education the tension will constantly increase and the competition become keener year by year. None will be able to take a worthy part in the future who do not now assiduously cultivate every faculty of mind which they possess; and no less needful is it that you should miss no opportunity of acquiring the command of all those instrumental appliances by which the power of the senses is so largely extended in range and precision. With the increasing demands of the age upon our profession, its responsibilities will admit of no slackening of the high tone of morality and the noble spirit of self-sacrifice which have always characterised it. The student's career will afford him abundant opportunities of exercising these. And thus acting, in proportion to your diligence will be the consciousness you will feel of frequent failure; in proportion to the amount of knowledge you acquire will be your sense of how little it is in comparison with the great world of thought and experience beyond you; in proportion to the extent to which you exercise your powers and discipline your mental faculties will be your feeling of their weakness and imperfection; and thus to earnest work and devoted sacrifice of self to duty will be added that humility which is the crown of both."

LIVERPOOL ROYAL INFIRMARY SCHOOL OF MEDICINE.

AFTER referring to the new premises, comprising classrooms, laboratories, museum, and library, lately added to the institution, Dr. CATON went on to speak of the importance of a knowledge of physiology, not only as a basis for medical study, but also in the wide bearing it has on the health of the community. He thought that much practical good might be done by popularising the subject. "The science of physiology is making great strides, and deserves greater countenance and support from Government. The work of investigation is difficult, laborious, and often expensive. At present it is carried on mainly by medical practitioners, who earn their bread by the practice of their profession, and who gain little or nothing by their scientific work except the esteem of the few who are able to understand and estimate it. The science is thus at a disadvantage, depending too much on the efforts of isolated men, who can only give to it a small part of their time. The gain to the science, and the ultimate benefit to the country, would probably be great if one or more Government-supported laboratories were established, and some of the more eminent physiologists paid to devote their entire time to the work. If there is a probability, or even a possibility, that by the cultivation of this science life may be prolonged, and disease and suffering averted, is there any other that can claim the priority? It is not at all unreasonable to believe that, sooner or later, a profound acquaintance with the laws of animal life will enable the medical profession to be of manifold greater service than at present. We may fairly look forward to a period when, by the aid of science, whole classes of existing diseases will have been swept away entirely, such as the infectious fevers; while a more exact knowledge of the nature of disease, together with advances in therapeutics and surgery, will enable the medical man to give relief and avert death much more speedily and certainly than can be done now. It is quite reasonable to expect a time when natural death—death at the full term of years, unhastened by any form of disease—shall be the rule, and not, as now, the exception; and when the great majority of men may enjoy seventy or eighty years of vigorous life." Dr. Caton concluded by a few remarks, addressed especially to the students, in reference to the work of the session about to commence.

PRESENTATIONS. — Dr. Green, Medical Officer of Kilmacthomas Infirmary and Fever Hospital, having resigned, his many friends met together on the 18th ult., and presented him with an address, a beautiful timepiece, and a massive gold chain, as a token of their respect and regret at his leaving Kilmacthomas for Limerick.—Dr. Justyn Douglas, on resigning the post of resident medical officer to the Bournemouth Dispensary, which he has held for two years, has been presented by the patients who were under his care with a microscope and other valuable apparatus.

THE LANCET.

LONDON: SATURDAY, OCTOBER 11, 1873.

WITH this week's issue THE LANCET enters upon the fifty-first year of its existence—an existence that was for a period chilled by clouds and buffeted by storms, but that has long since emerged into the full sunshine of a scarcely chequered prosperity. The first number appeared on Sunday, the 5th of October, 1823, at a time when the appointments in the great hospitals were the actual property of cliques or families, or were at best confined to those who had paid large premiums as private pupils to their predecessors—when the experience and the teaching of hospitals were jealously kept from the knowledge of the profession—and when the majority of practitioners, having never experienced the benefits of publicity in matters relating to their calling, neither claimed it as a right nor welcomed it as a boon. The late Mr. WAKLEY, with the intuition of genius, saw something of the nature and extent of the opportunity that lay before him, and, with the pluck and pertinacity of a true Englishman, determined to seize and utilise it to the utmost. Although in advance of his time, he had the good fortune not to be too much so, and hence was spared the adverse fate by which, if his venture had been fifty years earlier still, it would in all probability have been overtaken. Even as it was, there seems no reason to doubt that many honest men, acting according to the undeveloped moral sense of the time, really regarded him as one bent upon despoiling them of their intellectual property, and thought they were protecting their own just rights when they endeavoured to confine to a party the gifts that belonged to mankind. We are wiser now; and it is difficult to read the history of the acrimony of those days, of the various and ingenious efforts that were made to exclude our reporters, and of the persistent hostility with which all who were openly favourable to THE LANCET were pursued by the heads of the profession, without attributing to them a pettiness of spirit and a malignity of motive to which our happier age affords no parallel. To do so would, however, be utterly unjust; for all persons should be judged by the standard of their own actual lights and surroundings, not by those of some subsequent generation. The founder of this journal, if he were still with us, would be the first to set the example of looking back upon past strife with no unkindly spirit towards the vanquished; and he would regard as his real adversaries, not the individuals with whom he had been brought into collision, but the traditions and habits of thought from which those individuals had not been able to emancipate themselves. The triumphant result of his labours is that for fifty years the history of THE LANCET has been the history of the profession of medicine, of its struggles after higher truth and deeper knowledge, of its gradual emancipation from the shackles of prejudice and error, of the increasing pride of its members in their calling, and of their increasing respect for themselves and sense of duty towards each other. We are no longer alone in the great work in which we still claim to be leaders; and we gladly recognise the services which our contemporaries render to the common cause which we established, and which they have subsequently espoused; but none the less do we remember that our columns are the direct representatives of those which first rendered possible the formation of a public opinion in matters of medicine. The retrospect over fifty years, in any human undertaking, must always be attended by thoughts which temper elation with sadness; and in our own case we have to regret many losses by time and death, some promises which have remained without fulfilment, and a few instances in which those who were friends in outward seeming have proved unworthy of the trust we had reposed in them. Notwithstanding these things, we remember with no common satisfaction how many of our chief contributors have been men who have afterwards attained the highest honours in the profession; or, in other words, to how great an extent the work of THE LANCET has been that of some of the best brains that have been devoted to the medical calling.

But over and above its purely professional relations, THE LANCET has performed a *rôle* on which we cannot forbear to touch—that of an auxiliary, nay, in some respects a pioneer, of sanitary and social reform. No account of its work would be complete which failed to notice its efforts, consistently maintained and ultimately successful, for the abolition of flogging in the army—a form of discipline which was sometimes carried to an utterly inhuman excess, and acted as a positive deterrent to the recruit. The Commission for the detection of Food Adulteration was another movement to which society is indebted for much of the legislation which is now directed against fraudulent traders. The thorough exposure of the imperfect qualifications with which candidates were in many cases allowed to enter upon practice led to the enactments of 1858—enactments which, provisional as they are and susceptible of much modification, were yet a great step in advance of the traditional state of things. The inquiries into the management of workhouses and workhouse infirmaries opened up a vast field for reform, the cultivation of which is yet in progress, but of which we can already anticipate the harvest in a wiser, more humane, and more efficacious treatment of the poor and the invalid pauper. Hospital Sunday is another and cognate movement, the effects of which are, even in this its elementary stage, of the most gratifying kind, and are giving earnest of a systematised and successful mode of sustaining our medical charities in practical efficiency and in public confidence. The success of these and of many similar efforts, and the spirit of co-operation in which they have been met by the community, are at once our justification and our encouragement in continuing the policy which the founder of THE LANCET initiated, and of which he lived to see some of the fruits. The past, indeed, inspires us with full confidence in the future; and we do not doubt—nay, we determine and will ensure, we or our successors—that the history of the journal, for the half-century that is to come, shall reflect no discredit upon that of the half-century which has passed away.

WHEN Professor LISTER first introduced his now celebrated "antiseptic system" for the treatment of wounds and other morbid conditions, he most explicitly based his views upon the truth of the panspermic hypothesis and the "vital" theory of fermentation promulgated by M. PASTEUR. He was thus able to give to his system a theoretical basis which was very fascinating to many, owing to its simplicity and apparent harmony with what they deemed the best established scientific principles. This theoretical basis, however, safe as it may have seemed, has been rudely shaken by two or three independent series of investigations conducted during the last few years. It is all the more to be regretted that Professor LISTER should have so firmly and positively based his antiseptic system upon the truth of the panspermic hypothesis and the vital theories of fermentation of M. PASTEUR, because it really needed no such support, and might equally well (if not quite so plausibly) have been based upon the opposite theory of fermentation advocated by the late Baron LIEBIG and others. The result has been that, instead of having to advocate the claims of his particular treatment of wounds only, Professor LISTER has had to defend the theoretical basis upon which he has chosen to rest it. But however adverse a multitude of stubborn facts may be to this theoretical basis, it should be clearly understood that the question of the degree of value to be attached to the system of treatment itself is one of an altogether independent character, because this system never needed any such specific basis. What we are about to say, therefore, concerning some recent attempts on the part of Professor LISTER to prop up the panspermic hypothesis (see *Nature*, July 10th and 17th), must not be supposed to have any bearing upon the merits or demerits of the "antiseptic system" itself. This is quite an independent question, which will have to be decided in a manner wholly different—viz., by the comparison of a very large number of cases treated by this and other methods, though otherwise placed under more or less similar conditions.

A belief in the hypothesis of panspermism and an exclusively vital theory of fermentation have, until a recent period, been so closely associated that they have constituted merely two sides of the same argument employed by those who have contended against the facts and reasonings adduced by the adherents of "spontaneous generation." This was more especially the case with the acknowledged champion of the vital theory of fermentation—M. PASTEUR. He set himself to prove that, whenever fermentation or putrefaction took place in a previously-boiled fluid, this change was due to the contamination of the fluid by certain organised corpuscles (germs) derived from the atmosphere. Similarly we find Professor LISTER maintaining that wounds are injuriously contaminated by atmospheric particles; and as he repudiates all belief in spontaneous generation, those particles which are effective in bringing about the changes in question must necessarily be looked upon by him as "germs" of Bacteria or other closely-allied organisms. Professor LISTER, therefore, gives an unqualified adherence to the doctrines of M. PASTEUR.

Now it so happens that both friends and foes of PASTEUR'S theory of putrefaction have, in many instances, within the last two or three years, become so far reconciled in opinion as to believe that M. PASTEUR was altogether wrong in supposing that the air is loaded with the germs of Bacteria, and that when previously-boiled fluids putrefy the change is due to contamination from this source. The experiments of Dr. BASTIAN and of Dr. BURDON-SANDERSON—made almost simultaneously, though quite independently—have shown in the clearest manner that germs of Bacteria do not exist in any appreciable number in the atmosphere, and that the cause of putrefaction is often not traceable to atmospheric particles. So conclusive is the evidence afforded by these experiments that it has been very widely accepted, even by those who still cling to the vital theory of fermentation. Dr. SANDERSON disowns all belief in heterogenesis, and could not, therefore, be regarded as unduly biased when he came to a conclusion which many will think it difficult to reconcile with his position as a professed believer in PASTEUR'S vital theory of fermentation. Would M. PASTEUR, in the present state of science, still attempt to uphold his vital theory of fermentation if he could only claim for its support the panspermic hypothesis subject to the reservations necessitated by the experiments of Dr. SANDERSON and Dr. BASTIAN? Panspermism and the vital theory of fermentation have always been but two aspects of one and the same argument. Those who still profess to believe in PASTEUR'S theory of fermentation will doubtless, after a time, come to recognise all the difficulties of their position, and to what extent it has been weakened by the admissions which Dr. SANDERSON and others have been compelled to make.

As regards the theoretical basis of his system of treatment, therefore, Prof. LISTER is at present in the following condition: he must either endeavour to show that Dr. SANDERSON and Dr. BASTIAN are alike mistaken in their interpretation of the evidence bearing upon the distribution of germs in the atmosphere, or else he must change the theoretical basis upon which his system has hitherto reposed, and must allow it to rest upon the broader physical theory, rather than upon the narrow and exclusive vital theory of fermentation. Now it so happens that the views of Dr. SANDERSON, taken in their entirety, are altogether opposed to the teachings of Professor LISTER; there is a disagreement as to fact which is completely irreconcilable, since Dr. SANDERSON maintains, not only that the air does not contain germs of Bacteria, but also that putrefying fluids are not contaminated or incited to change by aerial particles. It is, however, otherwise as between Professor LISTER and Dr. BASTIAN; they are much more in accordance with regard to facts, although they differ from one another in the interpretation of these facts. Whilst Dr. BASTIAN agrees with Dr. SANDERSON in denying the existence of germs of bacteria in the air, he agrees with Professor LISTER in his cardinal position, that putrefaction is very frequently incited in wounds by air-borne particles. Where, then, it may be asked, lies the difference between the views of Professor LISTER and Dr. BASTIAN? It is to be found in this: In opposition to the experiments and views of both Dr. SANDERSON and Dr. BASTIAN, we are told by Professor LISTER that such air-borne particles are living germs;

whilst, on the other hand, Dr. BASTIAN claims to have proved not only that living germs of putrefaction do not exist in the atmosphere, but, still more, that the mere dead organic particles which the atmosphere abundantly contains can and do act as incitors of putrefaction.

Not willing to change the theoretical basis of his antiseptic system of treatment when this change necessitated a belief in the occurrence of "spontaneous generation," we find Professor LISTER accepting the other alternative, and endeavouring to combat the view of Dr. SANDERSON, that putrefaction is not initiated by air-borne particles. Strangely enough, however, he seems to think that in so doing he is also combating the theory of "spontaneous generation." But, as we shall attempt to show in another article, his experiments have no direct bearing whatever upon this aspect of the question.

IF the test of the excellence of the Introductory Lectures were only something different from what it is, the batch of those which we reported last week would be entitled to very high praise indeed. The general and special knowledge displayed in them, the large views of the relations of the sciences and the keen appreciation of the last generalisations in science, the varied relations of the science of medicine, the evidence contained in the addresses of the attention of their authors to politico-medical questions, were all very interesting and creditable to the profession. But none of these qualities involve the essence of a good introductory lecture. The test of a good introductory lecture is the very simple one that it be introductory to the study of the subject. Judged by this standard some of the addresses, and, let us admit, some of ablest of them, were not calculated to be very helpful to the young student, however enlarging to the minds of older students and practitioners they might be. Let us fancy the reflections of a young man fresh from his preliminary examination, and having had no introduction to the study of the science and practice of medicine, listening to some of the addresses which we reported last week. How bewildered he must have been! He came to town probably with hazy notions of anatomy, of fractured limbs, and the differentiation of scarlet fever and measles, and he is treated to a discourse on the unity of force; or the effulgence of the London Hospital as a centre of medical and scientific discovery; or the harmony of science and religion; or the unfitness of women for the duties of medical practice; or the defects of the Public Health Act; or the bearings of the Hospital Sunday movement. These are all subjects of great moment and interest, but the question recurs, Are they introductory to the study of medicine? We may be laying ourselves open to a charge of narrowness, but we must say that they do not seem to us so likely to introduce the student to a particular study as to distract and bewilder him, and make him fancy that, instead of finding that knowledge which is to make him a competent practitioner in the careful and thorough study of a few well-selected subjects, his mind has to roam at large over the whole range of the sciences, for the chance of picking up here and there a stray thought that may be of use in the study and practice of medicine. Let it be remembered that students of the present day, commencing their medical studies, are much in need of advice and a few general notions of the great but special territory of knowledge before them. In times gone by, before the creation of the Medical Parliament which sits in Soho-square, if not in St. Martin's-lane, men came up from their pupilage more needful of addresses of the kind that were delivered last week. They had picked up some very practical knowledge, and were disposed to think that they knew everything, and could afford to despise the teaching of the schools; they needed to be taught that the "ocean" of truth was waiting exploration, and that they "know nothing yet as they ought to know." But now, in the uninitiated state in which young men enter the profession, and with such a multiplicity of subjects for study of which they as yet know nothing, they need more than ever unpretending introductory lectures, with a good dash of dogmatism in them, and very plain instructions as to the best order of study and the best use of their time. They are very much in the position of patients coming to distinguished London practitioners for advice; and the more succinctly and simply, and even colloquially, it can be conveyed, the better. We are alarmed at the tendency to digression in medical teaching, not because we do not admire width and variety of learning, but because the length of this art of ours, and the shortness of this life, impress us with the necessity for a medical student to learn to say, with a distinguished teacher of us all, "This one thing I do."

But though there were many things irrelevant, and not very introductory, in some of the addresses, there was in all of them a recognition of two or three great points which we must try to make clear. All the lecturers were agreed, first, that without the basis of a good sound preliminary education no student is in a position to study medicine properly. Secondly, all were agreed that a student must look for success chiefly by making the best use of himself and of his time. If he is dreaming when he should be working, as Mr. HINTON would say; if he is in the hospital when he should be in the dissecting-room; if he is reading easy books when he should be mastering details for himself in the laboratory or in the dissecting-room,—all the lecturers of last week agree that, as a practitioner, if not at his examinations, he will be a comparative failure. Mr. CARTER, in his remarkable address, delivered without manuscript, gave an admirable account of the use a man should make of himself—of his faculties. To his address those may be referred who wish to know the qualities needed in a medical student, and the way in which they should be cultivated. Closely connected with the right use of oneself is the right use of one's time and opportunities, and perhaps the best remarks on these subjects were made by Dr. JOHN HARLEY, Mr. BELLAMY, and Mr. COWELL. The latter gentleman insisted on the importance of a proper order in medical studies, and the necessity for prohibiting students from anticipating the set of studies proper to the last two years of their curriculum while as yet they have not shown their knowledge of the studies proper to the first two years. For the run of students the hospital is more attractive than the dissecting-rooms. Mr. BELLAMY and Dr. JOHN HARLEY

made good points when they insisted on more attention to the teaching of the mechanical and minor parts of surgery. Students see a great deal of surgery of the grand order—legs amputated, great arteries tied, large stones extracted; in other words, they see much of work which they will seldom or never be called on to perform. But they are sent into practice without seeing catheters passed in difficult cases, or a paraphimosis reduced, or a Scott's bandage applied, or a wen removed, or a deep collection of matter in a delicate situation liberated; from which it comes to pass in after time, that otherwise well educated and competent men, able to guide patients through great maladies very skilfully, get much annoyance out of little failures. What is wanted is the concentration of all minor surgery into one given hour daily, and for one of the best teachers to be made responsible for the use of it. But our space is expended. The students of 1873 have been "introduced" to their studies. Before they are aware of it 1877 will be upon them, and will show whether all the golden opportunities which now are opening to them have been well used.

THE recent importations of cholera into the ports of London, Southampton, and Liverpool have given rise to some sharp criticisms, in the metropolitan and provincial press, of the regulations now in force, under the Order of the Local Government Board of July last, to prevent such importations. Especially it has been urged, by not a few correspondents, that these regulations do not meet the necessity of the case; and that some measures of quarantine are imperatively needed by which infected ships with their crews and passengers may be kept under supervision for a sufficient number of days. This conclusion is no doubt the logical outcome of the facts of recent importations of cholera into English ports as they appear upon the surface, but it is, nevertheless, a conclusion which cannot be maintained when the whole conditions of infection to which England is exposed are clearly understood. A brief consideration of the intricacy and rapidity of the traffic communications which exist between England and the Continent will show that no system of quarantine against continental ports could be maintained here, with any prospect of benefit, which did not provide for the entire cessation of all traffic for an indefinite period. The speed of journeying from Western, and even from Central and Eastern Europe to our coasts now outruns the ordinary period of incubation of most infectious diseases; and the individual who may have contracted cholera or other infectious disease in Paris or Vienna may not sicken until he has been landed and housed in this country. This fact, obvious in respect of small-pox and typhoid, as has been abundantly illustrated by recent cases within our knowledge, is not less true in regard to cholera; and any measure of port-precautions, short of an entire interruption of traffic, which would do more than endeavour to weed out manifest cases of infectious disease as they arrive, and prevent their being sent promiscuously among the population and thus multiplying needlessly centres of infection, would be simply ineffective.

The recent introductions of cholera into Liverpool very clearly show the difficulties with which England has to deal in protecting itself against the importation of foreign pestilence. Early in September, as stated in THE LANCET of the 27th ult., four cases of cholera were imported into Liverpool by a group of German emigrants. These emigrants came from Hamburg by way of Hull, and the individuals attacked (all members of one family) were seized on their journey from Hull to Liverpool. Three of the cases ended fatally. Three weeks later, a sailor belonging to a French ship which had been close upon two months in dock was attacked with cholera, and died after a few hours' illness. The history of this case is highly instructive. Six days before the seizure he and thirteen others had left Havre to join the ship at Liverpool. They travelled by the ordinary mail steamer to Southampton, landing at that town the next morning. From Southampton they proceeded the same day to London, and from London, in the evening, by the London and North-Western Railway to Liverpool, which town they reached at midnight. They spent the night at a French lodging-house, and in the morning, after a saunter in the town, they joined their ship. The sailor who was seized with cholera had a slight looseness of the bowels when he left Havre, where cholera was prevailing, but this looseness was set down by his comrades to the effects of drunkenness. The looseness persisted all the way from Havre to Liverpool, the sailor visiting every watercloset he could have access to on his route from Southampton to Liverpool. It was not, however, until the sixth day after he had left Havre that his comrades noted signs of indisposition such as induced them to call the captain's attention to the state of the man. He was then sent to hospital, where he died the next day. A few days after the foregoing case a third introduction of cholera into Liverpool occurred. A brig from Havre entered the Mersey, and was admitted, through an error of judgment of the Customs' examining officer, into dock, with three cases of cholera on board, all of which proved fatal shortly afterwards.

With importations of cholera of this latter kind the Order of the Local Government Board of July last gives to port sanitary authorities sufficient power to deal. It permits them to stop the vessel, to isolate her, and to remove or otherwise treat the sick, and to adopt all necessary measures of disinfection. But, in regard to importations similar in kind to the first two recorded instances, it must be obvious that no port precautions can altogether ensure safety. The seizure of the German emigrants was subsequent to their departure by rail from Hull for Liverpool. That any form of medical inspection of ships from infected ports can ever be carried out which will detect and stop cases of diarrhœa like that from which the sailor suffered who travelled from Havre to Liverpool by way of Southampton, is in the highest degree improbable. The only safeguard against importations of this kind is in the completeness of the internal provisions for dealing with the infectious diseases, and such provision the Sanitary Acts give abundant powers to sanitary authorities to make. The measures as to ships infected with cholera are the necessary complement of this provision; they are in no case a substitute for it. A system of quarantine such as would shut out chances of infection like those which have recently occurred at Liverpool by way of Hull and Southampton is altogether impracticable. Even if it were possible to at-

tempt such a restriction of commerce as would be needed to compass the end, the restriction would be futile, as one of its first consequences would be the development of a system of smuggling which would render the quarantine of no effect. In dealing with the importation of cholera by sea, our efforts must be limited for all practical purposes to stopping manifest cases of the disease. This the Order of the Local Government Board permits port sanitary authorities to do under regulations which, if judiciously exercised, will diminish to the largest practicable extent the danger from such cases, while at the same time they impose the least burdensome restrictions on commerce, and thus secure the willing co-operation of commercial men.

G. COLASANTI (*Centralblatt*, No. 34, 1873) has used the Meibomian follicles of man, the ox, horse, and sheep for the purpose of following out the terminations of the nerves in sebaceous glands, and has made fine sections of these, which were subsequently stained with gold in the manner recommended by CONHEIM. In the border of the lids, as is well known, there are two kinds of sebaceous glands, the Meibomian glands and the sebaceous follicles in connexion with the cilia. These two forms only differ from one another in their size. The sebaceous follicles of the cilia are not, as is often stated, developed on one side only, but surround the hairs on all sides. He finds that there is a layer, and sometimes more than one layer, of smooth polygonal or oval cells lining the interior of the membrana propria of the several alveoli. The cells are filled with fat-granules of various sizes, which sometimes coalesce to form highly refractile oil-drops. The axis of the alveoli is filled with finely granular detritus. He describes the connective tissue surrounding the glands, and improperly called tarsal cartilage, as consisting of dense connective-tissue fibrils, elastic fibres, connective-tissue corpuscles, and smooth muscular fibres, which collectively form a kind of capsule for the gland. In oxen transversely striated muscular tissue surrounds and invests the glands, and in all cases a large-meshed lymphatic plexus traverses the whole tissue. In the connective tissue surrounding the gland a plexus of medullated nerve-fibres may be seen in successful gold-stained preparations, and these run in company, and are distributed with the blood capillaries. These fibres give off smaller ones, which run to the fundus of the follicles, then perforate the membrana propria, where they lose their medullary sheath, and finally break up into primitive fasciculi, presenting the well-known varicose aspect. These fibres form a plexus in the interior of the alveoli, and wind round the several gland epithelium-cells. The plexus does not, however, extend into the excretory ducts. The nerves terminate in a precisely similar manner in the sebaceous glands of the hair-follicles.

THE Royal Albert Asylum for Idiots established for Lancashire, Yorkshire, Cumberland, Durham, Cheshire, Northumberland, and Westmoreland, held its annual festival at Lancaster on Wednesday. At a banquet in the evening, Lord Derby, who took the chair, made an impressive speech on the duty of treating insanity in its elementary stages.

Medical Annotations.

"Ne quid nimis."

BLOODLESS OPERATIONS.

Apropos of the remarks on the attainable limits of operative surgery referred to in another column, it may be interesting to describe a plan that has recently been adopted by Esmarch, and introduced into England by Mr. William Mac Cormac, of St. Thomas's Hospital, for preventing the loss of blood during operations on the distal portions of the extremities. The method is not exactly new, and was practised by Stromeyer and Langenbeck twenty years ago, and more recently by an Italian surgeon named Silvestri. The details are as follows. An elastic bandage, about two inches and a half in width and from five to ten yards long, is firmly bound round the limb, commencing at the toes or fingers, as the case may be, and is then continued upwards so as to drive the blood before it out of the veins and arteries. When the desired point has been reached, a strong india-rubber band, about half an inch in diameter, is tightly drawn two or three times round the limb just above the elastic bandage, and fastened by hooks. The bandage is then removed, leaving the tissues blanched and exsanguined. Not a particle of blood is lost during the operation, which is really more bloodless than when performed on the dead subject. After the operation is completed the rubber rope is removed, and the blood then finds its way into the vessels, which are ligatured or twisted according to the taste or inclination of the surgeon. On this plan, which has been carried out at St. Thomas's, Guy's, London, and St. Bartholomew's Hospitals, many operations have now been performed, including excision of the knee and elbow joints, amputations, and the removal of dead bone; and Mr. Wagstaffe has recently amputated through the thigh for gangrene of the foot on this plan, the precaution having been taken to commence the application of the elastic bandage several inches above the mortified part. No ill effects of any kind have hitherto been observed from the use of this contrivance. Although the durations of the operations have varied from a few minutes up to half an hour, and even more, during the whole of which time the circulation has been completely arrested, no evidence has been afforded of the formation of emboli or thrombi in any of the cases. But it is one of the possible evils of the device that the prolonged pressure on the vessels and complete stoppage of circulation may, under certain conditions, lead to the formation of a clot, which, on the re-establishment of the circulation, may be carried along the vessels, and arrested in some part of their course, giving rise to circumscribed inflammations or even gangrene. There is also considerable danger in applying the bandage over parts which are inflamed and suppurating, especially if decomposition be going on, lest some of the clots which are found in the bloodvessels of the affected parts be detached and forced into the blood-current. For such cases it would be well to employ in addition a modification of the plan which has been practised at Edinburgh for the last two or three years, and which consists in suspending the limb for some minutes before the operation, so that the blood may gravitate downwards. Then the bandage may be applied at the proximal side of the diseased part, thus avoiding all risks of septic poisoning or of embolism.

As to the condition of the limb on the removal of the rubber rope, it may be remarked that the blood shows itself at the wound in some cases immediately, and in others not for several seconds, or even a minute afterwards. The part then rapidly becomes very red, of a slightly livid hue, and somewhat swollen; which may be accounted for by the

small vessels and capillaries becoming engorged before the *vis a tergo* is sufficiently restored to drive the blood up into the venous column.

CASE OF STRYCHNINE POISONING.

ON September 19th an inquest was held by Dr. R. F. Dill, the coroner for Belfast, on the body of Thomas Shaw, aged thirty-seven, who had met his death three days previously from taking an over-dose of strychnine. From the somewhat imperfect report of the inquest, and from the newspaper correspondence to which it has given rise, we gather the following facts. The deceased, who was foreman in a muslin factory, was a delicate man and a great smoker, and possibly also (but of this there is doubt) was the subject of heart disease. On the 15th of September he consulted a medical man for some slight derangement of vision, who prescribed for him "seven drops of liquor strychniæ three times daily in water after meals." This prescription was dispensed by Messrs. Grattan and Co., who, it appears, in accordance with their instructions, furnished the deceased with an ounce bottle filled with liquor strychniæ of Pharmacopœial strength. From this bottle the patient was directed to measure his own dose of seven drops by dropping into a wineglass. On September 16th, after breakfast, the deceased took a dose of his medicine without any ill-effects. On the same day, after dinner, about twenty minutes after two, he took a second dose, and his wife, who saw him take it, counted the seven drops "in a run on the glass." He then took a short turn in the yard, and came in again "to take a nap on the sofa." He had not lain five minutes when he gave a yell, and jumped up, saying that he was poisoned, and asked for hot water, of which he drank three tumblersful. He vomited and became convulsed, the convulsions being tetanic in character, so that they were at once recognised as such by the medical man who was called in; the pupils were largely dilated; and he died in convulsions within an hour of his taking the fatal dose. The examination of the bottle from which the dose had been taken showed that more than 120 minims were wanting to make up the total quantity which the bottle was originally supposed to contain.

Supposing the patient to have taken only fourteen minims of the solution, the dose of strychnine amounted to rather more than one-eighth of a grain in five or six hours, a dose far short of that which hitherto has been recognised as a fatal one, for half a grain is spoken of as the smallest fatal dose for an adult. If the patient took 120 minims, then he received a grain of strychnine in the specified time, and it is highly probable that the last dose was more than ample to destroy life. There are, however, several links missing in the chain of evidence. First, it was not proved that the bottle of solution as furnished to the deceased was absolutely full, so that the quantity missing from the bottle after the accident is hardly a safe criterion of the dose of strychnine taken. Secondly, it was not proved by analysis that the solution with which the patient was provided was actually of the Pharmacopœial strength. The lesson to be learnt from this case is the unadvisability of prescribing potent poisons in so concentrated a form. Here we have the history of a patient being furnished with twenty-two days' medicine—sufficient, possibly, to kill eight men—in so small a compass that he might carry it in his waistcoat-pocket. Then, again, the mode of measuring the dose is one which gives most varying results. We have seen sixty drops of water let fall from a bottle into a minim measure fill the said measure to the amount of two drachms and a half; so that it seems to us possible that, even supposing the deceased counted his dose accurately, he may have received more than twice the amount which was intended for him. We heard not long since of a similar (though not fatal) accident occurring to a London physician who had prescribed a mixture containing strychnine, with the direction that a teaspoonful was to be taken for a dose. On revisiting his patient, he was horrified at finding him suffering from symptoms of strychnine poisoning, which had been brought about by the not unnatural mistake of the druggist, the nurse, or the patient—we forget which—of a "tablespoon" for a "teaspoon." Dangerous drugs like strychnine should always be administered in the most bulky form which is compatible with the well-being of the patient.

THE ASHANTEE WAR.

THERE is very little news of medical interest to relate this week in connexion with the expedition for the Gold Coast. Great activity prevails in the medical as in the other departments constituting the force, and every step and process hastened so as to enable our little army to take the field in January next. The railway which is about to be laid will have to take a circuitous route towards Coomassie, thereby avoiding a great deal of "bush." The *Victor Emanuel* hulk has been fitted up as a hospital ship, and will accommodate 200 patients. We trust that the sick and wounded, when brought back to the coast, will be immediately sent on board, and thus preserved as far as possible from breathing the deadly malarious air exhaled from the ground at night; and that care is taken that the water-filters, while portable, are yet constructed to contain a large quantity of water. Turning to the question of drug stores, what a splendid opportunity is now offered of testing the prophylactic power of chinchonine, concerning the qualities of which we some months ago published a very favourable report. Its cost is only about a fourth of that of quinine.

We have a few words of advice to offer to the heads of the medical and clothing departments. To the former we would point out the desirability of issuing to the soldiers simple printed rules for their guidance in cases of poisoned arrow-wounds. The latter department has, we hope, an ample supply of that essential to long and hot marching—stockings. It is well known that when the German army was pushing on to Paris during those memorable hot and dusty days succeeding the battles on the frontier, every available piece of linen, not to speak of towels and handkerchiefs, was utilised into stockings by the soldiers, hundreds of whom were thus relieved from foot-soreness, and only enabled by such means to keep their places in the ranks.

MICROSCOPICAL EXAMINATIONS OF THE BLOOD OF CHOLERA PATIENTS AND THEIR DEJECTIONS.

WITH praiseworthy diligence pathologists carry on their investigations touching the characters of the blood of patients affected with cholera. Although up to this day such researches have not given us the actual clue to the cause of the disease, we should not be seized with discouragement. Perhaps certain changes special to the disease will be at no distant period discovered, and such discovery may lead to the adoption of a beneficial line of therapeutics. Among the indefatigable workers in minute pathological researches we should count M. Hayem, of Paris. He has lately subjected the blood of cholera patients to microscopical examination, and thinks that he has not found characters peculiar to cholera. The increase of white corpuscles and the presence of small fragmented globules may be explained by the stasis of the blood in the algide period and the decrease in the proportion of water.

He has found a certain amount of viscosity in the blood-globules, for which he accounts by the presence of carbonic acid gas. As to the dejections, M. Hayem examined them to search for the proto-organisms which have been mentioned by certain authors. Several varieties of vibriones were found, but the same sorts were not traced in the dejections of different cholera patients, so that no special character can be attached to them. No actual cholera parasites have been found. In the post-mortem examinations the only organs constantly found in a pathological condition was the intestinal canal. The capillaries, the different layers of the epithelium, the sets of glands, and the villi, had all undergone certain changes, but the latter differed in no way from the changes observed in ordinary intestinal catarrh. M. Hayem, in bringing these facts before the Medical Society of Paris Hospitals (meeting of September 19th, 1873), alluded to ipecacuanha as having been of great use during the premonitory stage. He also found that sulphuret of mercury, recommended by Murino, had arrested the rice-water dejections. The dose is fifteen grains every second hour. Murino, an Italian physician, thinks that the sulphuret destroys the parasites. Be this as it may, the good effects of this salt remain perfectly certain.

HOSPITAL SUNDAY.

THE Report of the Executive Committee of the Metropolitan Hospital Sunday Fund gives an interesting history of the initiation of this great institution in London, which must for ever give very honourable distinction to the mayoralty of Sir Sydney Waterlow. But for his energy, trouble, and business capacity, the movement could never have been so brilliantly started. The Report of the Executive Committee adds little to our information, excepting that it lets in light on the only part of the administration of the fund which has caused dissatisfaction—the small grants allotted to dispensaries. We are informed in the Report that dispensaries have been so treated chiefly on two grounds: First, that dispensaries only grapple with ordinary ailments against which the working classes should be encouraged to make provision for themselves. Second, "that the management or staff expenses of dispensaries bear a much larger proportion to the moneys expended on patients than in the case of hospitals." This peculiarity of the expenditure is explained by the fact that dispensaries have no in-patients, and by the statement that, whereas it is a general custom to pay the medical staff of dispensaries, in hospitals the principal medical officers, as a rule, give their services gratuitously. This last statement is seriously inaccurate, for, with the exception of the resident medical officer, the staff is as honorary and does its work as gratuitously in a dispensary as in hospitals. The Committee hopes that in future the Council will give some expression of opinion on the relative claims of hospitals and dispensaries. We think that, pending such an expression of opinion, it would have been better for the Executive Committee, acting for the public, who have always supported dispensaries generously, to have treated the dispensaries more liberally. It is not desirable to complicate this movement at the very outset with nice judgments on the merits of similar institutions, or to draw fine distinctions between the claims of a working man with a broken leg and another working man with chronic or exhausting sickness in his family. Both classes of cases must be helped out of the Metropolitan Hospital Fund. Provident dispensaries, properly organised, are very good institutions, but many so-called "provident dispensaries" are only private surgeries; and in London, with the present prices of coal, meat, &c., there is still a large population above pauperism, yet incapable of regular payments for attendance in sickness, that gets most important aid from an ordinary dispensary. At least the public thinks so, and the Hospital Sunday Fund must be administered with reference to public opinion.

THE ATTAINABLE LIMITS OF OPERATIVE SURGERY.

IN his introductory lecture at University College Mr. Erichsen made the remarkable assertion that the attainable limit of manipulative and operative surgery had been nearly reached, if not quite. Coming as it does from one greatly experienced in the operative department of surgery, the statement is very significant and demands attention. The term "attainable limit," or "finality," as the lecturer called it, must, however, be accepted with a certain amount of reservation, lest by prematurely arrogating perfection we hinder further progress and retard a noble art. But it is only reasonable to assume that any merely manipulative art can be elaborated only to a certain degree, and that in time a point will be reached beyond which it is impossible to go. Varying conditions may suggest endless modifications, but the principles of the practice, so to speak, remain the same. If we remember that almost every artery in the body up to the aorta itself has been ligatured, that almost every articulation has been excised, that large bones have been removed, that organs previously considered vital have been extirpated, it must be acknowledged that something like finality has been attained. It is true that new methods of accomplishing a particular object in manipulative and operative surgery are constantly being devised; but in all these there is rarely little more than the elaboration of some old principle. The valuable method lately adopted by Esmarch of performing bloodless operations on the distal portions of the extremities, and to which fuller reference is made in another column, is sufficient proof that progress is still being made; but even this recent plan is not new, for the same object had been previously attempted by similar but less perfect means.

That the practice of surgery may become of still greater service to the community, it is therefore necessary now to turn the surgical mind in another direction, and, by developing the science, to remove the necessity of what has been called the opprobrium, but which is nevertheless the glory of the art—operative surgery. Scientific surgery must be cultivated with greater diligence and zeal, for from it must come any fresh achievements and new conquests. At the same time that we perfect the use of the knife, we must strive for its substitution by means more subtle but equally potent and effectual. It is true that in many cases, as in accidents and injuries, the knife cannot be dispensed with, but it is the province of scientific surgery to find out what will prevent diseases attaining the magnitude that entails the horrid necessity of operative interference.

It is, however, a serious fact, that notwithstanding the perfection in the manufacture and mechanism of instruments and the methods of using them, the results of operations, as regards life, remain about the same as when they were more rudely performed and instruments less ingenious. The results of a given operation as regards the individual are better, but the mortality of all operations has certainly not diminished in anything like a proportion corresponding to the progressive perfection of surgical manipulations. All the causes of this are not evident, but some are sufficiently obvious to be traced out and dealt with. We shall find, for instance, that there has been very little improvement in the external hygienic conditions by which the patient is surrounded before and after the operation. He is placed in the same wards, most of

which are ventilated in the same rude manner as formerly, and little has been done to diminish the risks attendant on surgical wounds in the wards of the hospital. The fact is, that what is often regarded as the result of an operation is the effect of hospitalism; and although a certain mortality may be necessarily associated with the system of hospitalism, it is equally certain that the number of deaths may be greatly diminished by attention to a strict hygiene. It is this part of the subject of scientific surgery that calls for a closer study and promises greater results than perhaps any other department.

OWENS COLLEGE, MANCHESTER.

THIS institution, which in twenty-two years has developed into the "University of South Lancashire and the neighbouring parts of Yorkshire and Cheshire," has latterly been attended by upwards of 1000 students in its day and evening classes, so that increased accommodation on a more suitable site has become imperative. A new building on the southern aspect of the city has at length been constructed, and on plans having every regard to light, ventilation, and solidity. It now has room for the Royal Manchester School of Medicine and for the museum of the Manchester Natural History Society and Geological Society, while provision has also been made in it for the teaching of jurisprudence and, indeed, for a complete course of legal education. On Tuesday the new College was opened in presence of a large body of students and well-wishers by the Duke of Devonshire, who dwelt on the objects held in view by its founder—namely, "to teach all that was taught in the English universities." Principal Greenwood next spoke on the proper functions of academic culture, and was followed by Professor Roscoe, who congratulated the professorial body on having the most complete chemical laboratory not only in the United Kingdom, but in Europe. The speech of the occasion, however, was Sir John Kay Shuttleworth's, who pointed to the fact that the College possessed the first laboratory for physiological research yet instituted in these islands. Referring to its curriculum, he was glad to find that there was no neglect of ancient studies, no deference merely to the use of particular studies in life, but that the best aims of all learning were first thought of, and the consequences left to take care of themselves. He was followed in similar strain by the Hon. A. Egerton, the Dean of Durham, and Dr. Storrar, who insisted on the importance of general intellectual training and discipline of mind prior to the study of medicine as a profession. A *soirée* in the evening, during which a series of scientific demonstrations were given, brought the ceremony to a successful close. We are always glad to find the provinces bestirring themselves in professional education, and thus exercising a wholesome stimulus on the metropolis.

THE PHARMACEUTICAL SOCIETY.

THE *Pharmaceutical Journal* of October 4th contains a very able address by Mr. George Webb Sandford to the students of pharmacy on the opening of the session on October 1st. Mr. Sandford referred with much satisfaction to the recent change by which the Society has voluntarily relinquished all *pecuniary* interest in the education of students, and to recent legislation as necessitating the education of chemists. He was careful to say that though the Society relinquished pecuniary interest in the education of its students, it was the firm determination of the Society that the education imparted should be *thorough*. He urged students not to be content with passing the minor examination, securing the right to assume the title and carry on the trade of a "chemist and druggist," but to aim at obtaining the higher title and diploma of a pharmaceutical chemist. There is no doubt that the holders of such diplomas might be of great service to medical men not only as druggists and dispensers, but as chemists in the higher sense of the word. Mr. Sandford's opinions on the prescribing practice of chemists should have some effect. We hope they will be taken into consideration by those to whom they are addressed.

"A dispenser of medicine is a member of the noble medical profession. Always remember, I pray you, that, although members of that profession, you must not account yourselves qualified to assume the position or to exercise the duties of its higher branches, or you will cease to acquit yourselves honourably in your department. In the army there are generals, field officers, captains, and subalterns, each with their appointed duties, and the success of a campaign depends on the concerted action of the different grades. So in the medical profession. It is for the physician to prescribe and the dispenser to obey his instructions. According to my judgment, the moment the dispenser attempts to reverse this order of things, and to usurp the province of the physician, he gets into mischief; he assumes a duty for which he is not qualified, to his own disgrace, to the public disadvantage, and manifestly to the disadvantage of his class. Nothing can be more certain than that it is of the utmost importance that the prescriber should have perfect confidence in the dispenser, that there should be a mutual good understanding between them; and it is to me equally certain that this confidence and this good understanding must be destroyed if the dispenser be not a man of intelligence, an honourable worker in his department, and careful not to outrage the discipline of the profession."

THE PUBLIC RESPONSIBILITIES OF PUBLIC OFFICERS.

THE Public Health Act of 1872 has opened out a new field of work for members of our profession, and has, so to speak, created a new body of public officers, invested with great and special responsibilities. Some have come to the work well prepared, but the most are learners and have to feel their way. And hence it is particularly important that those who know, as well as those who are striving to know, their duties, should preserve most carefully, in their relations with the public, a very clear and independent line of action. We take it that such action cannot be properly maintained if medical officers of health or analysts, acting in a private capacity, give certificates to tradesmen as to the quality of any article in which they deal. The point of this principle is so obvious that any notice as to its importance might possibly be deemed a work of supererogation. But we know that the signatures of several distinguished professional men, who hold public offices, are continually appearing before the public in all sorts and varieties of trade advertisements. There can be little doubt that such a course of action must of necessity fetter the hands of these officers. We hold that medical officers of health should scrupulously avoid giving any certificates that can be used publicly for other than sanitary (as distinguished from commercial) purposes, and that unless this plan is adopted, and rigidly adhered to, the laity will not respect or have faith in the professional workers that the Act of last year has brought into existence.

IMPORTANT TO CLUB DOCTORS.

A JUDGMENT — we presume by a County Court judge, though it is not stated in the report from which we quote—very just in itself, and of importance to medical men attending clubs, is reported in the *Brierley-hill Advertiser* of the 20th September. The surgeon of the lodge, Mr. Standish, was appointed in July, 1871. The appointment was for twelve months. But Mr. Standish received a notice to attend a lodge meeting to answer a complaint by one of the members. He attended the meeting, but, the accuser

not appearing, he left with several members. Nevertheless, the members who remained and the secretary passed a resolution that three months' notice of dismissal should be given to Mr. Standish. Mr. Standish, with much firm dignity, declined to act upon the notice, and brought this action to recover £12 3s. for services up to July, completing the twelve months. By a rule of the society, all disputes are referred to the District Committee of Arbitration, and this Committee decided very justly that the dismissal was illegal, and ordered the court "Lily of the Valley" to pay the expenses of arbitration. The County Court judge refused to overrule the finding of the Committee of Arbitration, insisting that it was final, and gave a verdict for the plaintiff. We need not congratulate Mr. Standish on not being mulcted of his salary by a complainer who had not the courage to appear—congratulation is to be reserved for more remarkable fortune than merely getting what is one's due; but we may congratulate the Ancient Order of Foresters on having a Court of Arbitration that seems to be able to judge fairly and independently between one of its own courts and an injured medical man.

HOSPITAL ETIQUETTE.

WE lately received a letter on the above subject—a letter which we confess puzzles us and sets us wondering as to what hospital our correspondent alludes to. All we can say is, that any hospital in which it is possible for the members of a staff to be "quarrelling as to whom a case belongs," must be—whatever distinctions may exist in it between surgeons and assistant-surgeons—abominably managed. We cannot see why, on the admission of any case requiring operation, there should be a moment's doubt as to whose duty it is to perform such operation, and we do not think that in the majority of the London hospitals such doubts arise. Every surgeon has, or should have, his own days or weeks for attending to casualties, and in the event of the absence or indisposition of the surgeon, these duties should devolve upon one of the assistant-surgeons. Surgeons and assistant-surgeons, both being aware of their liabilities during their own days, ought always to be within call. If the surgeon for the week has to leave town, the assistant-surgeon for the week, as a matter of course, takes his place, and the latter ought on no account to absent himself without first ascertaining that one of his colleagues is ready to act for him. If discipline is maintained in a hospital, and regulations of this kind are strictly adhered to, we cannot see how any serious delays can arise; and if the officers quarrel, it must be their own fault. There are very few, if any, casualties that are likely to suffer materially from being left in the hands of the house-surgeon for an hour or so, or until the hospital messenger has summoned to his assistance either the surgeon or assistant-surgeon who is on duty for the day. If either of the latter be away and have not left word where they are to be found or who is on duty for them, they are alone responsible for any harm which may come to the patient.

HEALTH AND SAFETY AFLOAT.

THE preliminary report of the Royal Commission appointed to inquire into the general condition of the mercantile marine, and specially with reference to unseaworthy ships, has recently been issued. We are somewhat disappointed that nothing is contained therein relative to health of seamen, and sincerely hope that the Commissioners, when their labours are resumed, will not fail to see the advisability of making inquiries having reference to the safety of ships in connexion with the health as well as the competency of the crews that man them. We indicated some months ago that the Plimsollian agitators have failed to recognise that no vessel, however seaworthy in herself, can be counted as seaworthy, in the proper acceptation of the term, unless she is manned by a healthy crew. The medical officers of the Seamen's Hospital could give numerous instances of men who, after having signed articles, have come to that institution for treatment as out-patients, suffering from various forms of venereal disease, rendering them totally unfit for active duty on board ship. And so, as it appears to us, the crew, as well as the vessel, should be officially inspected, and the present permissive (and therefore useless) section of the Merchant Shipping Act of 1867 rendered compulsory. It is probable, however, that this important subject will engage the attention of the Commission when the sittings are recommenced.

THE FINANCES OF THE BRITISH ASSOCIATION.

IN our last two numbers we gave a summary of the chief physiological papers which were read at the Bradford meeting—a collection of papers eminently calculated to advance the science to which they pertained. From an inspection of the balance-sheet of the Association, it is evident that the Council are not neglectful of the more material methods of advancing science, and recognise the fact that they do well to aid the brains of their associates by grants of money.

The total receipts of the Bradford meeting amounted to £2102, and of this sum nearly three quarters—viz., £1495—was distributed to aid the scientific work in the various sections. Of this sum the section of Mathematics and Physics obtained £580; Chemistry, £200; Geology, £390; Biology, £250; Statistics and Economic Science, £25; and Mechanics, £50.

In the Biological Section the grant was thus divided:—Colonel A. Lane-Fox, "Forms of Instruction for Travellers," £50; Mr. Stainton, "Record of the Progress of Zoology," £100; Mr. Gwyn Jeffreys, "Dredging off the coast of Yorkshire," £30; Professor Balfour, "Physiological Action of Light," £20; Dr. Pye-Smith, "The Nature of Intestinal Secretion," £20; Dr. M. Foster, "Methods of Breeding the Embryos of Delicate Marine Organisms," £30. In addition to the above sums, £50 was awarded to the widow of the late Mr. Askham, bringing the total awards to £1545.

We feel sure that this lesson will not be lost upon another Association the financial arrangements of which we have lately had occasion to criticise.

CONSTANT WATER SERVICE.

IF we had not learnt by experience to be sceptical about the near realisation of any practical results from subjects "under consideration" in official quarters, our hopes in reference to a constant water service for the metropolis would no doubt be raised by an announcement which was made at the last meeting of the Metropolitan Board of Works. The vestry of St. George, Hanover-square, having moved the Board to make a representation to the water companies that for the better prevention of loss of life by fire the mains in certain localities especially exposed to risk should be kept charged all night, have been informed that, as the whole question of securing to the metropolis a constant supply of water under the provisions of the Water Act of 1871 "is now under the consideration of the Board," it is not desirable at the present time to act upon the vestry's suggestion. The Board will of course take care to satisfy themselves this time that Mr. Stansfeld is made aware in the most direct manner of their opinion as to the unsatisfactory state in which the Act of 1871 has left the

matter, and so deprive him next session of any excuse for non-intervention on behalf of the consumers. Safety of life and property against fire, and of life against disease communicable through the water which the companies have a monopoly for supplying, the inhabitants of the metropolis have a right to; and it is wonderful that they have waited so patiently for this.

CHOLERA PATIENTS IN THE PARIS GENERAL HOSPITALS.

WHEN medical men belonging to the French capital visit London they invariably express much admiration when they see that we possess special hospitals for small-pox and fever. No such institution exists in Paris; both variola and the exanthematous as well as other fevers are admitted into the general hospitals, and we are not aware that even separate wards are provided for such cases. Indeed, it is not uncommon to meet with patients deeply marked with small-pox who tell you that they took the disease in a hospital of the French metropolis, from the next bed. That such a state of things exists in a country where flourish so many eminent hospital physicians is rather startling. But it should be mentioned that hospital physicians and surgeons in Paris have little or no power as regards the management of the charitable institutions with which they are connected. The director is the autocrat, who acts under the immediate orders of a director-general. Both are much inclined to ignore the medical staff altogether, and act upon their own lay and very erroneous notions. These notions very probably prevail at the present time, when we see that cholera patients are received into the general wards. Indeed, during an epidemic of this kind even separate wards in general hospitals are detrimental to the institution. Nothing less than a special building, isolated from any other, should be accepted; and the greatest care taken that the dejections should breed no mischief. Measures of the kind will, unfortunately, be necessary in London at no distant period, though it is to be hoped that the epidemic may be kept off by proper preventive measures. The fact that the disease is mostly imported forces itself more and more upon medical men; and it will be, at all events, worth while to use the utmost vigilance at all our ports.

EXCESSIVE SMOKING.

AN inquest was held on Tuesday last on the body of a Government clerk who, according to the medical evidence, must have died from syncope induced by excessive smoking while the stomach was empty. We have never underrated the danger to which immoderate smokers are liable. When taken in excess the ordinary and pleasant effects of the herb, due probably to the carbonic acid and ammonia inhaled, are succeeded by the severer action induced by the presence of a large quantity of nicotine and empyreumatic oil in the blood, thinning this important fluid, and causing a weak action of the heart. Fortunately, these poisons find a ready exit from the system. But it is when imbibed during a period of fasting that their directly injurious effects on the cardiac organ are to be apprehended. A post-mortem examination of a person who died from excessive smoking would not probably reveal much beyond an extremely flaccid heart and slightly congested brain.

METROPOLITAN SLAUGHTERHOUSES.

THE question whether or not next year is to witness the summary extinction of the 1500 private slaughterhouses which are stated to be existing now in London is naturally exciting a considerable amount of interest. Without going so far as the medical officer of health for Islington, who declares that "private slaughterhouses are a curse to the poor," we are satisfied that their supersession by public abattoirs is to be desired for many reasons, mainly because the latter afford facilities for inspection, and, consequently, for a guarantee of the wholesomeness of the meat supplied, which the former do not. But whatever is done in this respect should be done directly by special enactment, and not in the roundabout fashion implied by the operation of the clause which seems to have so oddly got into the Buildings Act of 1844. It is not well for any step in sanitary progress to be gained by a surprise.

By the way, in a report prepared for the Corporation of Liverpool in 1867 by Mr. Newlands, the borough engineer, on the Abattoirs of Paris and Brussels, it is stated that in those cities the butchers who killed in private slaughterhouses were strongly opposed to public abattoirs before they had experience of them, but that after using them they had become warm supporters of the change.

THE LATE M. NELATON.

THE departed eminent surgeon has been the subject of accurate biographical notices, but their authors have not sufficiently insisted on the peculiar timidity and shyness which characterised his general demeanour, so much so that those who might have feared him as a competitor relied on this retiring disposition, and apprehended no rivalry, especially as he was known to have considerable property. But his success with Garibaldi and the favour of the Emperor worked wonders. It is a pity that the circumstance which gained him the Imperial Court drove a colleague of his into an asylum for the insane. Jobert (de Lamballe) had for some time secured the confidence of the Emperor when the Empress and her suite met with a carriage accident in Switzerland. The telegram sent to Paris said, "Let Jobert start at once, or, in his absence, Nélaton." Unfortunately for the former, he was out of town, and Nélaton went down to Switzerland. His services and his manner won the Empress; poor Jobert was supplanted, and he took the change to heart in such a manner that his mind became unhinged. Nélaton from that period rose with wonderful rapidity. He attended some time afterwards the Czar's son at Nice, his honorarium on that occasion amounting to £16,000.

DEATHS IN ENGLAND.

A PARLIAMENTARY PAPER recently issued carries on, for the ten years 1861–70, the valuable series of mortality statistics which was first given in what is commonly known as Mr. Lowe's Return of 1864, and which, we believe, was prepared by the Registrar-General's Department, at the instance of Mr. Simon. The present return enables us to compare the mortality from all causes and from certain diseases throughout every district of the country in the decade 1861–70 with that of the decade 1851–60; and we shall take an early opportunity of laying before our readers some results of such a comparison.

SANITARY WORK IN THE PORT OF LONDON.

The Times of Thursday last contained a brief notice indicating that cholera had, in spite of all port sanitary precautions, found its way at the fag-end of the autumn into the metropolis by way of the Thames. We do not believe that the results will be serious, because the vessel was immediately hauled out of dock and completely isolated; but we must take leave to record that, in spite of Orders in Council, Customs' regulations, and local authorities, no workable machinery appears as yet to have been devised that will properly insure the exclusion of epidemic disease

from our chief waterway. The Corporation of London, as the sanitary authority of the port, commenced work under most favourable auspices, inasmuch as it was presumed that they had secured the services of a medical officer thoroughly conversant with the geography of the river, and able to cope with its manifest difficulties. It seems to us, however, judging from recent events, that all has been done that could be done, and that the spirit of the Order in Council recently issued has been very well carried out. We are glad to record, on the eve of going to press, that none of the crew of the infected vessel are ill, and that the fumigation and disinfection of the vessel have been completely performed under the direction of the port medical officer.

FLOATING BATHS.

WE are extremely glad to observe that the movement for constructing swimming baths shows signs of steady development. We predict that much good will accrue from the institution on all our large rivers of these means to cleanliness and aids to the acquisition of a useful accomplishment, and find it difficult to imagine an objection that can be urged against them. An excellent floating bath has now been erected on the Mersey for the use of the boys of the training-ship *Indefatigable*, an example that should be followed in the case of the training-ship lying off Purfleet. The Metropolitan Board of Works, at a late meeting, sanctioned the proposal of Admiral Elliott, on behalf of the Floating Swimming Bath Company, to construct a public swimming bath at the west side of Charing-cross. It is to be hoped that the Board will also give effect to a memorial forwarded to them last week by a jury at Hampstead, acting on the recommendation of Dr. Lankester, in which they prayed the Board to convert the dangerous Hampstead Ponds into safe and comfortable bathing-places.

THE PARIS SOCIETY FOR THE PROTECTION OF CHILDREN.

THIS Society will shortly hold a congress at Marseilles. It is to be hoped that the action of the Society will thereby be strengthened, and that its usefulness will become more universal. In alluding to this congress in the Surgical Society of Paris, M. Marjolin took occasion to speak of the wretched condition of a great many dwellings of the poor in the French capital. Whole families were crowded in rooms where children came in contact with the sick, and were breathing a pestilential air. He complained that many schools were so small, so neglected, and so dirty, that the places were hardly fit to harbour the lower animals. He pointed out that children covered with scrofulous sores, or affected with purulent ophthalmia, were allowed to mix with the healthy, and hoped that before long such a sad condition of things would be remedied. He did not fear to point out the schools, mentioning the street and the number, so as to stimulate the authorities to look into the matter; and trusted that the Society for the Protection of Children would help in effacing the disgraceful blot to which he had alluded.

THE MODE OF TRANSMISSION OF CHOLERA.

CONTAGIONISTS and anti-contagionists should pay particular attention to the fact that, in the present epidemic in Paris, the disease has repeatedly broken out in a hospital ward, where one or two persons were attacked and died, the rest escaping entirely. It is difficult to trace contagion in such cases; and M. Legrand, in *l'Union Médicale*, justly asks how the believers in the dejection contagion can explain this. We have also the theory of the winds which are supposed to carry the virus in their course. This mode also is open to question. In 1865–66 the whole seaboard of the Mediterranean was visited by cholera, save Sicily. Here a regular cordon was established all round the island, and no vessel was allowed to approach the coast. Of course such a cordon had no power over the winds, but no cholera appeared in Sicily. It is incumbent on governments to see to this, and prevent any communication with infected districts, or vessels coming from countries where cholera is raging.

UNFAITHFUL DISPENSING.

THE medical man whose name did not transpire before the magistrate at Hammersmith, but who came to complain of a chemist deliberately leaving out the only important thing in a prescription, and substituting something injurious, was Mr. John Scoffern, M.B. Lond. The patient has since died, the result required by law before a chemist acting so remarkably can be called to account. It remains to be seen whether any new action will be taken against the chemist either by Mr. Scoffern or the parents.

THE SOCIETIES.

THE following Societies hold their first meeting during the present session as under:—The Clinical Society on Friday, October 10th, at 8.30 P.M.; the Royal Medical and Chirurgical Society on Tuesday, October 14th, at 8.30 P.M.; the Medical Society on Monday, October 20th; the Pathological Society on Tuesday, October 21st, at 8 P.M.

THE Preston Board of Guardians have received information of an alarming outbreak of fever at Middleforth Green, Penwortham. Up to Tuesday nineteen cases were reported. One of the guardians having testified, from personal observation, to the soundness of the drains and the excellence of the water of the district, Dr. Beard, the Local Government Board inspector, who happened to be present at the meeting of the guardians, warned them as to the possibly dangerous character of water which appeared pure and sparkling. It was finally resolved that the medical officer of health should be requested to make a report on the outbreak, and submit it to a committee appointed to take it into consideration.

THE authorities of Lincoln have published, in the form of a handbill, the sections of the Sanitary Act referring to the offences of wilfully exposing persons suffering from infectious diseases; of conveying them in cabs, &c., without afterwards disinfecting the cab; of exposing or selling infected beds; or of knowingly letting houses or rooms lately occupied by persons labouring under infectious disease without having the same previously disinfected to the satisfaction of a medical man. It is pointed out that scarlet fever and scarlatina are included in infectious disorders within the meaning of the Act. Such handbills should be distributed in every town and district.

DR. EDWIN LANKESTER, in his report on the sanitary condition of Westminster, states that the mortality of the district last year was less than in any similar period since 1858. This is a satisfactory result of the sanitary measures lately introduced into the parish, and must be gratifying to the vestry. As a means of stamping out small-pox, Dr. Lankester advocates compulsory vaccination carried out by officers appointed by the Crown, quite independent of local authorities, and public declaration of the existence of small-pox to the sanitary authorities. Heavy penalties should, he thinks, be attached to the neglect of this declaration, or to any neglect on the part of the authorities to isolate infected persons.

AT the monthly meeting of the Metropolitan Asylums Board on the 4th inst., a report was presented showing that several cases of enteric fever had appeared in the asylum at Hampstead; 7 patients and 4 attendants had taken the disease, and in 2 instances it proved fatal. It was also reported that during the last four weeks there had been a considerable increase in the number of fever cases in the Stockwell Hospital, there having been 63 admissions, 8 deaths, and 38 discharges, leaving 60 at present under treatment, as against 43 at the date of the last report.

PROPOSALS are in circulation to organise a "Society for Physical Research," the object of which will be to "show new physical facts and new means for showing old ones; to make known new physical discoveries, domestic and foreign; and for the better knowledge, one of another, of those given to physical work." One of the leading promoters of the "Physical Society" is the well-known chemist, Mr. Frederick Guthrie, F.R.S., to whom applications should be addressed, at 24, Stanley-crescent, W.

FOR the vacancies caused in the Dublin Richmond Hospital by the resignation of Messrs. Adams and Smith, there are already among the candidates Messrs. Corlay, Kelly, Gogarty, Stoker, and others. An effort, we understand, will be made to introduce the religious element into the election, while the more moderate recommend the appointment of one catholic and one protestant. The selection lies with the Board of Governors, subject to the sanction of the Lord Lieutenant.

ST. GILES'S has been heavily visited by typhus. A fire in one of its courts a few weeks ago disclosed an accumulation of filth, the removal of which made the atmosphere intolerable for days. To this and to the removal of bodies from a cellar below the old Baptist Chapel, which Dr. Ross, the medical officer, has stopped, may be traced the origin of the outbreak. Cases have been transferred daily to Stockwell Fever Hospital, one house contributing as many as five.

DR. MEYMOTT TIDY, medical officer of health for Islington, in his first report on the sanitary condition of his district, strongly protests against the proposition to repeal the clause of the Metropolitan Buildings Act which provides for the abolition of private slaughterhouses. Dr. Tidy considers private slaughterhouses to be atrocious nuisances.

THE Khedive of Egypt is about to construct a hospital at Emirghian, on the Bosphorus. The institution will, it is said, be a model one of its kind. The women will have a pavilion separated from the men, and the plans provide for the complete isolation of one of the wards—that for contagious diseases—without interfering with the working of the rest of the establishment.

A PUBLIC meeting will be held on Wednesday, the 22nd October, at 3 o'clock, in the Mansion House, for the purpose of settling the preliminary arrangements for the Hospital Sunday, 1874, and of electing the Council and Committee of Distribution for that year.

THE annual general meeting of the Medical Club, Spring-gardens, was held on Wednesday last. The club is now admirably managed, and deserves the support of the profession.

THE steamer *Leibnitz*, from Liverpool, has been declared infected with cholera, at Lisbon, and has been put into quarantine by order of the Portuguese authorities.

AT a meeting of the Bath Town Council, held last week, the death of Dr. Dalrymple was alluded to in terms of great kindliness and regret, and the following resolution was passed:—"That this Corporation do convey to Mrs. Dalrymple the expression of their sincere regret at the loss she has sustained in the death of the late Donald Dalrymple, Esq., M.P., and also their recognition of the fidelity and diligence and courtesy with which he acted as Member for this city."

A MEETING of the Italian Association for the Promotion of Science will be held at Rome in a few days. The association dates from 1839, when it met for the first time at Pisa. It is, therefore, thirty-three years older than the French imitation of the British Association, which met at Bordeaux for the first time last year.

THE mortality in London last week was at the rate of 22 deaths annually to every 1000 of the estimated population. The deaths included 43 from the different forms of fever, and 71 from diarrhœa. During the same period the annual death-rate was 25 per 1000 in Paris, and 33 per 1000 in Berlin.

THE North Cambridgeshire Cottage Hospital, built and endowed by Miss Trafford-Southwell at a cost of £18,000, was opened last week amidst great rejoicing. Additional sums amounting to over £3000 have been subscribed in the neighbourhood towards the maintenance of the institution.

DR. LETHEBY reports that during the past fortnight 107 houses were inspected which required sanitary improvements. Of sixty-five vessels boarded on the river three only were defective in ventilating arrangements. The mortality in the city was below the average.

ACCORDING to the *Glasgow News*, a requisition is on foot to bring forward Dr. Andrew Clark as a candidate in the Liberal interest for the representation of Aberdeen and Glasgow Universities. Dr. Clark is a graduate of the former seat of learning.

A LAD aged fourteen died last week in the Royal South Hants Infirmary, Southampton, whilst undergoing an ophthalmic operation under the influence of ether.

THE EPIDEMIC OF TYPHOID IN MARYLEBONE.

ON the 25th ultimo Dr. Whitmore, the Medical Officer of Health for the parish, presented to the Vestry his detailed report on the late epidemic. The great majority of the facts embodied in this report have already appeared in our columns, so that it will only be necessary for us to recapitulate certain points in the history of the epidemic which receive, as it were, official confirmation. Dr. Whitmore's attention was first drawn to the number of cases of typhoid on August 4th by Dr. Murchison, and, owing to the advice tendered by that gentleman, he informed the Dairy Reform Company of the suspicions against their milk on that day or the day following. "I extended my inquiries," says Dr. Whitmore, "into the state of the sewers and drains of those parts of the parish in which the disease was prevalent, and into the quality of the water-supply. By the assistance of Mr. Hallet, the assistant-surveyor of the parish, I ascertained that the sewers were in a satisfactory condition, having all been well flushed and cleansed a short time before; and, as regards the drains, I could have no

doubt of the drains being in good structural condition, especially in those houses where cases of fever existed, as the occupants were medical men of eminence, and other persons fully alive to the importance of living under the best and most perfect sanitary conditions that it was possible to obtain. The water-supply I found equally free from suspicion. Weekly analyses had shown, during the whole year, that it was of more than average purity and freedom from organic contamination."

We do not learn from the report that Dr. Whitmore made a personal inspection of each house where fever existed, to ascertain whether his preconceived notions as to the excellence of the sanitary arrangements were correct or not. We think, also, that it would have been as well, for the information of the Vestry, to state definitely that it is useless to trust to mere analysis for the detection of typhoid poison in water, milk, or any other fluid.

On the 7th of August the Vestry was informed of the outbreak, and the second letter was addressed to the Milk Company. "I also felt myself called upon to communicate personally with the Medical Officer of the Privy Council, Mr. Simon, in order that in the prosecution of further inquiries I might have the assistance of some gentleman from his department. This I did not seek because I felt personally incompetent to the task, but because it was apparent that the origin of the outbreak was to be sought for in places far away from the parish of St. Marylebone, beyond which I could exercise no power or authority." After some little hesitation, Mr. J. Netten Radcliffe was appointed by the Local Government Board to co-operate with Dr. Whitmore. On August 8th [?] Mr. Netten Radcliffe and Dr. Whitmore conferred with the directors of the Dairy Company, who were aided and advised by Dr. Corfield, the medical officer of the adjoining parish of St. George's, Hanover-square, and Mr. Chalmers Morton. "It was then arranged that all the farms which supplied milk to the Orchard-street dairy should be visited, and we were assured that the occupiers of those farms had received instructions to render us every assistance and afford us all the information in their power. It was also arranged that we should meet on Monday, the 11th of August, from whence we were to start on our inquiries." Why the inspection of the farms was delayed for three days after the first meeting is not stated. The result of the inspection is pretty generally known. "In seven of these farms the investigators were unsuccessful in discovering the cause of the outbreak. It is true that in some of them the water-supply was deficient in quantity, and, in my opinion, unfit for drinking purposes, and the well in dangerous proximity to the privy. It is also true that the drainage was unsatisfactory; but beyond these there was nothing to show that the milk from these farms was infected with typhoid poison." With regard to the condition of *Chilton Grove*, the eighth farm visited, there was the fact of enteric fever having occurred upon it. Mr. Jessop, the husband of the present occupier, had died there of heart disease (it is said) whilst recovering from enteric fever, and at the time of the inspection a lad of fourteen, a son of the deceased, was actually down with the same fever. "The farm-house and buildings are placed on a slope, the privy, which is a mere open pit, being placed at the highest point, and at the lowest the well. This latter is bricked but not cemented, and receives its water-supply from a brook [?] in a field some 300 or 400 yards distant. The distance between the well and the privy is about 18½ yards, and between these, but nearer to the former, is the dairy, where there is a pump which draws its water from the well through a pipe which, we were informed, was laid in a sort of trench dug to receive it. The altitude of the privy above the well is about 8 feet; it is therefore obvious that any soakage from it must flow in the direction of the well, and it is also clear that so soon as such soakage reaches the trench its further progress to the well meets with comparatively little obstruction. At the time of our visit the water in this well was extremely bad, and we were informed by Mrs. Jessop that it had not been used for drinking for nearly two years, but simply for cooking, washing, and for washing out and cooling the milk cans. It was obvious to myself and other gentlemen present that the water was impregnated with the soakage from the privy, and also from the pig-styes and manure-heap, which were even in much closer proximity to it, and also upon a higher level."

With regard to the extent of the epidemic, Dr. Whitmore's knowledge is still imperfect. From such sources of information, however, as are open to him, he concludes that typhoid fever has infected 90 families and 320 persons who have obtained milk from the infected source.

The report concludes with a statement of the sanitary precautions taken by Dr. Whitmore during the epidemic. Amongst the printed directions issued to the inhabitants there is one sanitary precaution which, although it seems to have been of undoubted service, is strangely enough conspicuous by its absence. It is the simple injunction, "Boil your milk." The concluding paragraph states that the epidemic "has now almost entirely subsided." The report has been ordered to be printed, and we hope that a plan of Chilton Grove Farm will be given with it.

HOSPITAL DINNERS.

OF late years there has been a general tendency to make the programme for the opening day of the Winter Session as attractive as possible. We are glad to find that the doings of October 1st have this year given so substantial and satisfactory evidence of the same. For all that brings past students to the *réunions* at their old schools must obviously be beneficial; and there can be little doubt that many a medical man will steal a day from his practice to dine with his contemporaries who would never think of visiting his old school simply to attend the introductory address.

ST. BARTHOLOMEW'S.

The annual dinner of the old students of St. Bartholomew's Hospital took place in the great hall on the 1st inst., under the presidency of Mr. Savory. About one hundred visitors were present, including Sir James Paget, Dr. Carpenter, Dr. Humphry of Cambridge, Dr. F. J. Farre, Dr. Monro, Mr. Callender, Mr. Holden, Dr. Blakeney, Mr. Henry Power, Dr. Wotton, &c. The chairman reviewed most felicitously the past and present aspects of the school; Sir James Paget made one of his happy speeches; and, owing to the able efforts of Mr. Willett, the dinner was a great success.

CHARING-CROSS HOSPITAL.

Upon the conclusion of Mr. Bellamy's address the audience adjourned to a *conversazione* held in the Board-room of the hospital, where microscopical and other objects of interest were exhibited.

ST. GEORGE'S HOSPITAL.

The annual St. George's Hospital Medical School dinner was held at Willis's Rooms, St. James's. Dr. Acland, Regius Professor of Medicine at Oxford, presided. The company numbered upwards of ninety, including the medical staff and a large number of the old students. After the usual loyal toasts, Dr. Barclay proposed that of the "Governors of St. George's Hospital," which was responded to by Mr. J. S. Shaw Stewart, the Treasurer. The toast of the evening, "The St. George's Hospital and Medical School," was proposed by the Chairman, and responded to by Dr. Wadham, Dean of the School. "The Health of Mr. Brudenell Carter, the Orator of the day," was then proposed, and responded to by that gentleman. The toast of "The Old Students and Visitors" was proposed by Dr. Barclay, and responded to by Mr. Frank Buckland. The toast of "The Present Students" was proposed by Mr. T. Holmes, and responded to by Mr. W. Ewart. The evening proved a very enjoyable one.

THE LONDON HOSPITAL.

Dr. Herbert Davies presided at the biennial festival of the London Hospital, which was held at the Albion Tavern on the 1st.

ST. MARY'S HOSPITAL.

After the delivery of the introductory address by Dr. Shepherd, the company adjourned to a *conversazione* in the Board-room of the hospital, where refreshments were provided, and various objects of interest exhibited.

THE MIDDLESEX HOSPITAL.

The annual dinner of the Medical College took place in St. James's Hall-buildings, on Wednesday evening, after the introductory address by Mr. Morris. Dr. Greenhow, F.R.S., presided, and there was a large attendance of members of the staff, past and present students, and friends of the hospital. Major Walters and Major MacLeay responded to the toast of the "Army, Navy, and Reserve Forces"; Mr. Ross, the popular chairman of the weekly board, to that of "The Middlesex Hospital." The toast of the evening, "The Middlesex Hospital Medical College," was, according to custom, coupled with the name of Mr. De Morgan, and received with the usual enthusiasm. Mr. Rix and Mr. Arthur Tomes responded to the toast of "The Past and Present Students." The toast of "The Chairman" was received with much applause, and was feelingly responded to. The toast of "The Lecturer of the Day" did not fail to call forth a warm response for it. During the evening a musical programme, kindly organised by Mr. G. Anderson Critchett, and carried out most successfully by the "Middlesex Hospital Minstrels," added greatly to the pleasure of a very successful meeting. Mr. Critchett, Dr. C. Semple, Mr. Adams, Mr. Hailstone, the Rev. Mr. Walshe, chaplain to the hospital, and Mr. Gillespie were the performers.

WESTMINSTER HOSPITAL.

After the introductory address, a *conversazione* was held in the Board-room.

LIVERPOOL ROYAL INFIRMARY.

After the inaugural proceedings connected with the coming session, which included the introductory address by Dr. R. Caton, and the formal opening of the new buildings by John Torr, Esq., M.P., the annual school dinner was held at the Adelphi Hotel, under the presidency of Dr. Gee. The company, numbering about ninety, included past and present students, lecturers, medical officers of the local charities, and other members of the profession. A party of amateur glee singers largely contributed to the enjoyment of the evening by the performance of some excellent music. The *réunion* was a most enjoyable one, and passed off, if possible, with more than usual *éclat*.

LEEDS SCHOOL OF MEDICINE.

After Mr. Scattergood's introductory address, the annual dinner was held at the Great Northern Hotel; it was well attended by the local members of the profession, the company numbering about sixty. The mayor, and the vicar, the Rev. Canon Woodford, were among the guests of the council of the school. The toast, "The Leeds School of Medicine," was proposed by the vicar and responded to by Dr. Heaton, the treasurer.

SHEFFIELD SCHOOL OF MEDICINE.

The lecturers of the Sheffield School of Medicine dined together at the Victoria Hotel, on October 1st; Dr. de Bartolomé, the president of the school, occupied the chair; and Mr. Favell the vice-chair. In responding to the toast of "The Lecturers," Dr. Young made reference to the inadequacy of the school accommodation.

Correspondence.

"Audi alteram partem."

FEVER AT BRENTFORD.

To the Editor of THE LANCET.

SIR,—I have no reason to be dissatisfied with your report on the outbreak of fever at Brentford. Although it is not so stated, the inference that my process of converting sewage sludge into cement can have had nothing whatever to do with the outbreak is plain enough, and you also clearly point to the fact that it has been discontinued at Ealing on account of the admitted insufficiency of the works, which do not allow of as good an effluent as the lime process is capable of effecting. I will, however, ask you to allow me to put myself right with you on one point. Your article blames me for some precipitation in the mode I adopted in exposing the foul condition of Brentford. Mr. Davis is unaware, probably, and therefore could not inform the author of your report, that on the 28th June last, whilst taking upon myself full responsibility as respected the character of the effluent sent down to Brentford, I pointed out to the Brentford authorities that they were themselves permitting the brook, which is the cause of the dispute, to be largely polluted, and that my attempts to render it inoffensive were thereby vitiated. "I should be glad," I added, "if you would arrange for me an early meeting with your sanitary authorities on this point, because I, like the people of Brentford, am deeply interested in the brook being inoffensive."

To this communication no reply was vouchsafed, but the Ealing board was again attacked, and this board, after the manner of public boards (and I believe it to be one of the most enlightened in the kingdom, not excepting even that of Nottingham), took the following course:—Although they were aware that their own surveyor was doing on my behalf more than they would admit (with reference to the negotiations for the lease of the works) to be necessary; although also they knew that what Brentford aimed at was to have the open channel which carried the Ealing effluent covered in, and that any other cause of complaint which the Brentford people had was due to their having neglected to increase the size of the tanks with the increase of the population, they determined to throw upon me the onus of any legal proceedings which Brentford might take.

Under these circumstances it was only natural that I should at once go to Brentford to see how far Brentford could make a case against me, and having found matters such as I described in *The Times*, it became a public duty to bring them at once to light.

With respect to the character of the effluent which the lime process is capable of producing, you rightly interpret my views when you say that in my opinion, as in your own, such effluent water can never be fit, without filtration, to be cast into a river. But I should wish to add a limitation to this general statement. If the waters are not used for domestic purposes, and if, *moreover*, their volume is very large as compared with the sewage effluent from the lime process, I think land filtration may be dispensed with, though it ought to be insisted on in all other cases. The effect of the lime process is well known. It removes, when honestly applied, all suspended matters and upwards of one-half of the nitrogen in solution; but no sane man would call the resulting water *purified*, or like to have it flowing through his pleasure grounds. Consequently, if Brentford did not itself so flagrantly pollute the Ealing brook, it would be perfectly justified in insisting that it should be covered in. Moreover, no tanks which Ealing is likely to construct will be of sufficient capacity to take the whole of the storm-waters which flow through its sewers, and it is intolerable that a small open brook, running alongside a public footpath of a populous district, should be made a carrier for the offensive matter scoured out of them by every rain-storm after a period of dry weather.

On the other hand, I think it would be unnecessary that the West Ham district, which pours its sewage into the River Lea at a point where the river is tidal and offensive from other causes, should be compelled to do more than clarify its sewage by lime; but, again, I am distinctly of opinion (looking to the temptations which the farmer has not to irrigate at all times and seasons) that sewage should not be allowed to be poured upon land which drains into small rivers, or which is near towns, without having been previously clarified and deodorised in tanks.

In the choice of modes of precipitation towns may be safely left to themselves. A Royal Commission in 1858 pointed out that no mode was more effective or so cheap as lime, and the recent experiments of the River Pollution Commissioners confirm this statement; and so long as the lime treatment, except in special cases such as I have alluded to, is considered as an adjunct of land filtration, much good may be effected by encouraging its use throughout the kingdom.

My process, as you are aware, really consists in dealing with the solid matters which are removed from sewage by lime in an inoffensive manner.

In lieu of allowing the precipitated sludge to lie in heaps mixed with ashes, impure with all kinds of putrid house refuse, until it suits the farmers' convenience to remove

them, my proposal is to dry the sludge whilst still inoffensive owing to the presence of free lime, to destroy the organic compounds by fire, and to turn the mineral matters which remain to useful purposes. To form an accurate opinion of the sanitary efficacy of the two plans, it is only necessary to pay a visit to the Ealing works, and then go to West Ham, where my process is in operation on a portion of the sewage. I feel confident as to what the medical man's opinion must be, and I am also confident that the medical man can do more in making towns clean and healthy than any other power in the kingdom. Local boards will never spend a penny on the purification of sewage if they can avoid it, and Government will not compel them to do their duty. It is in the power of the medical profession alone to bring about sanitary reform. It can speak with authority, and it has a powerful ally in the fears of men; and should any member of the medical profession desire to have the opinions on this difficult subject of one who has made it his study, but has a hobby, he may obtain, free of cost, a pamphlet which gives them, by applying by post to Mr. Redgrave, Scott's Sewage Company, 26, Great George-street, Westminster.

I herewith enclose a copy of the pamphlet alluded to, and trust that it may be found not unworthy of your perusal. I trust also that the importance of the subject will prove a sufficient apology for the length of this communication.

I have the honour to be, Sir, your obedient servant,

Ealing, October 2nd, 1873. HENRY Y. D. SCOTT.

To the Editor of THE LANCET.

SIR,—Your recent article on the outbreak of fever in Old Brentford fairly describes the state of the county town of Middlesex, and the sewage question between Brentford and Ealing. You found, on your own inspection, that the information which I gave to General Scott and Mr. Jones was no exaggeration, and was rather under than above the mark; indeed, such a state of things in such an important town is as disgraceful as it is disgusting.

My special object in writing to you is to bring before your notice some facts which have been overlooked in the public discussion of this question. I have no doubt that the sanitary state of the town leads to almost periodical outbreaks of fever in one form or another, but I do not take this to be the only cause. I think there is a more general one well worthy of your consideration. It is notorious that outbreaks of fever have taken place in every part of the country, and in every district of the metropolis. With perfect or imperfect drainage fever has done its work, generally but not fiercely. I am inclined to account for this phenomenon, without ignoring the milk theory and such like, by attributing it to some disturbance of the equilibrium of the constituent elements of the atmosphere. That the atmosphere has been in a very disturbed state for some time and highly charged with electricity appears from the unusually terrific thunderstorms and heavy rains which have made this year remarkable. May there not be in the atmosphere currents of air in which its noxious element may have some preponderance, and so be calculated, wherever they run, and are inhaled, to produce sudden outbursts of fever?

On the other hand, this form of fever, so sudden, and suddenly spreading, is but seldom fatal. It may seem a paradox, but nevertheless it is a fact, that in Brentford and its neighbourhood, notwithstanding these outbreaks of disease, the rate of mortality has been steadily decreasing for several years. In the Ealing Cemetery, with which I am connected, and which stands halfway between Ealing and Brentford, the number of burials during the last twelve months is 160 less than those in the previous twelve months, and in these 130 less than in the year before, and of this decrease Old Brentford has its full share.

If Ealing and Brentford were to set fairly to work, and were agreed to remove every proved nuisance, and if the good people of Brentford were to be animated by public spirit and to sweep away sternly the refuse heaps and cesspools and sewage with which it abounds, there would not be a healthier spot in England than the county town of Middlesex.

I fear I have encroached too much upon your space and attention, but I am very anxious that this subject should not be allowed to go to sleep. Already its further consideration is adjourned for three months, which will bring us not only to January, but also to bye-streets and lanes ridged with mud about impassable standing pools, and to up-bubbling soil between cottage flagstones, and out of this horrible nursery to the more fatal disease here, the small-pox.

With my apology for this intrusion,

I am, Sir, yours, &c.,

SAMUEL MORE RICHARDS.

St. George's Vicarage, Old Brentford,
October 8th, 1873.

To the Editor of THE LANCET.

SIR,—I have carefully read your article on the outbreak of fever at Brentford, and, as a member of the Ealing Local Board, bear willing testimony to its general fairness.

On one point your reporter has been misinformed. Unaltered sewage is never sent down from the Ealing works. All the sewage, after being mixed with lime, goes into the subsiding tanks, and the water afterwards passes over gravel filter beds before it is discharged into the stream.

It is true that in the case of a storm of extraordinary severity, where the volume of water would be more than the tanks could receive without overflow, a provision is made by which a sluice gate can be opened and the storm-water allowed to pass on without entering the tanks; but this would not be done until the first flow had flushed the sewers and carried all their contents into the tanks, so that undisguised sewage would not even then be sent down. As a matter of fact this has not required to be done during the past year, although we have had some heavy storms. There is a belief at Brentford that at night the sluice gate is opened, but it is entirely unfounded. The sewage goes through the tanks by night as well as by day.

Your suggestion that the effluent water should pass through the soil instead of over it, is a valuable one. The fact that the law does not prohibit the discharge of effluent water from sewage into a river will account for boards taking the easiest way of getting rid of it. It is obvious, however, that putting aside the injurious properties which, however purified, it must possess, it is a waste of fertilising material to allow it thus to be disposed of; and I shall, at the Ealing Board, advocate utilising it in irrigation, for which the adjacent market gardens seem well adapted.

I am, Sir, yours, &c.,

Ealing, October 4th, 1873. GEO. D. BROWN, M.R.C.S.E.

TAMPERING WITH PHYSICIANS' PRESCRIPTIONS.

To the Editor of THE LANCET.

SIR,—I was called in a short time ago to a case of acute cerebral disease. I found the patient in a state of excessive nervous excitement, accompanied by violent tetanic twitchings and spasms. I was informed that he had been taking a medicine prescribed by one of our leading physicians, whom he had consulted in a previous attack. There was no ingredient in the prescription to cause these tetanic spasms, nor were these symptoms to be expected from the nature of the case. Suspecting that the prescription had been tampered with, I went to the druggist who had dispensed the medicine, who, without attempting to disguise the matter, told me that at the request of the patient he had added strychnine to the other ingredients as prescribed. The dose given was the ordinary officinal one. The friends of the patient, regarding him as a free and responsible agent, and not recognising the nature of the complaint, and at the same time ignorant of the addition made by the dispenser, handed him the bottle containing eight doses, which he took at one draught. This was not done with any suicidal intention, the patient at the time being irresponsible for his actions. I felt it my duty to inform the physician that his prescription had been tampered with, and he accompanied me to the druggist, who gave as an excuse for his conduct that he had frequently done it before at the request of the patient without any evil resulting from it. He was severely reprimanded by the physician, and it was only on his pro-

mise not to repeat a similar offence that further action was stayed. The case of itself was a most urgent one, and if the nature of these tetanic spasms had not been detected, and the proper treatment adopted, fatal results would have followed, and the druggist would have been liable to an indictment for manslaughter.

A similar case having lately been brought prominently before the public is my excuse for troubling you with this letter. I am, Sir, your obedient servant,

LYTTLETON S. WINSLOW, M.B., D.C.L.

Cavendish-square, Oct. 2nd, 1873.

BIRMINGHAM.

(From our own Correspondent.)

PRIVATE munificence is supplying Birmingham with those parks and recreation grounds which the Corporation is either too poor or too parsimonious to provide. In addition to the parks given respectively by Sir Charles Adderley and Lord Calthorpe, Birmingham has recently, through the generosity of Miss Ryland, acquired a third park, which surpasses in extent, as well as in natural beauty, either of the others. The area of this new place of recreation is sixty-six acres, and the bestowal of it was accompanied with a gift of £5000 towards the laying of it out. This has been very judiciously accomplished, the health of the people being evidently considered in the provision of a lake for boating, and a pool, surrounded by trees, for bathing. The death-rate of the town is exceptionally high, 29·2 per 1000; the chief cause of the mortality is diarrhœa, especially among infants. The appointment of surgeon to the gaol is still vacant; only three applications were received for the office at the salary (£100 per annum) proposed by the Corporation, and, fortunately for the credit of the profession in this town, neither of them came from Birmingham surgeons. None of these candidates appearing to be eligible to the magistrates with whom the election rests, no appointment was made, and the subject has been again referred to the Corporation, in order that the proposal of the magistrates as to making the stipend £200 may be again considered.

An important inquiry has lately been undertaken by the Queen's Hospital Committee, assisted by the Charity Organisation and Mendicity Society, as to the social position of hospital patients. Their report, which was presented yesterday, shows that the hospital does much work belonging to the parochial authorities, and that many "accidents," "emergencies," as well as "in-patients admitted by subscribers' tickets," were not objects of charity; among other things, it states that the system of hospital charity in its present working tends to discourage provident habits among the working classes, and that the out-door department is seriously abused by persons who are fully able to pay for medical advice. The committee of the Queen's Hospital, appreciating the value of the report, resolved that "systematic inquiry into the circumstances of all applicants for relief (except cases of urgency and accident) is imperatively required in the interests of the charities of the town," and also suggested that joint action should be taken by all the charities, with a view to such inquiries being made by inspectors specially appointed for the purpose by a central organisation.

A case of enchondroma of the tibia now in the Queen's Hospital, under Mr. Gamgee, is remarkable for its large size, and for the evidence it furnishes of the hereditary nature of the disease. The patient's father is the one whose thigh Mr. Gamgee successfully amputated at the hip-joint in 1862, for one of the largest enchondromatous tumours on record. Other two of the man's children have similar tumours on the radius, ilium, and tibia.

Under Dr. Balthazar Foster, we noticed a man affected with locomotor ataxy of three years' duration, who had improved greatly in power of locomotion under the influence of galvanism applied daily to the spine, the direction of the current being from below upwards. In the same case, rest and morphia *sub cute* had greatly mitigated the neuralgic pains. We also observed a case of facial paralysis from cold, of some months' duration, undergoing marked improvement from the use of galvanism, and support to the affected side by means of a hook catching the corner of the mouth and attached above the ear.

Birmingham, Oct. 4th, 1873.

Medical News.

APOTHECARIES' HALL. — The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Oct. 2nd:—

Chambers, Eber, Ryde, Isle of Wight.
Collinson, Alfred Cockburn, Elgin-road.
Vowell, Charles Martin, Cheltenham.

GERMAN HOSPITAL.—Dr. Julius Hessel and Dr. Carl Faber have been appointed resident medical officers to the above institution, vice Dr. Frederick Adolphus Nieden and Dr. Paul Schliep.

MEDICAL MAGISTRATES.—Mr. J. Clarkson Maynard, M.R.C.S., has been placed on the Commission of the Peace for the Borough of Wisbeach. Mr. Edward Bousfield, L.R.C.P. Ed., M.R.C.S. Eng., has been appointed Justice of the Peace for the Borough of Thetford (Norfolk).

THE Court of Common Council have made the following grants to medical institutions:—To the East London Hospital for Children, £105 in aid of the building fund; to the London Hospital, £315; to the Poplar Hospital for Accidents, £52 10s.; and to the Royal Hospital for Diseases of the Chest, City-road, £52 10s.

THE FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At a meeting of this Corporation, held on the 6th inst., the following office-bearers were elected for the ensuing year:—President: Dr. Eben. Watson. Visitor: Dr. Andrew Fergus. Treasurer: Dr. John Goates. Hon. Librarian: Dr. J. D. Maclaren. Vaccinator: Dr. Hugh Thomson. Councillors: The President (*ex officio*), the Visitor (*ex officio*), Drs. J. G. Fleming, H. R. Howatt, Jas. Steven, James Morton, and George Buchanan.

GLASGOW SOUTHERN MEDICAL SOCIETY.—At the thirtieth annual meeting of this Society, held on the 2nd inst., the following office-bearers were elected for session 1873–4:—President: James Dunlop, M.D. Vice-President: John White, M.D. Treasurer: Edward McMillan, L.R.C.S. Ed. Secretary: John Dougall, M.D. Seal-Keeper: Robert T. Paton, M.D. Court Medical: Eben. Duncan, M.D. (Convener); Robert W. Forrest, M.D.; David Tindal, L.F.P.S.G.; William Rice, M.D.; J. H. Menzies, M.D.

Medical Appointments.

ASHENDEN, C., M.R.C.S.E., has been appointed Medical Officer of Health and Analyst for the Hastings Urban District.

ATKINSON, C. S. A., M.R.C.S.E., has been appointed Medical Officer for the East Ashford Union Workhouse, vice Brook, resigned.

BERESFORD, R. DE LA POER, M.D., has been appointed a Medical Officer to the Oswestry Dispensary, vice Wynne, deceased.

ATTHILL, W. E. B., M.R.C.S.E., L.R.C.P.L., late Assistant-Surgeon Prussian Army (1870-71), has been appointed Parochial Medical Officer of the Middlebie Union, Dumfriesshire, N.B., vice Jardine, M.B., M.C., resigned.

BOTTON, J. E., M.R.C.S.E., has been appointed a Medical Officer to the new Cottage Infirmary at Watlington.

BROADBENT, L. G., M.D., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the East District of the Belford Union, vice Hayes, resigned.

BURTON, R. G., M.D., L.R.C.S.Ed., has been appointed Medical Officer and Public Vaccinator for District No. 7 of the Brentford Union, vice Nicoll, resigned.

CAMERON, A., M.D., L.R.C.S.Ed., has been appointed Resident Medical Officer at the Eastern Dispensary of Bath, vice Brown, resigned.

CARLESS, E. N., M.B., has been appointed Medical Officer of Health for the Devizes Urban Sanitary District.

COGAN, P. E., M.D., has been appointed Medical Officer and Public Vaccinator for the newly formed Allerton District of the North Bierley Union.

DALY, J. H., L.R.C.P.I., L.R.C.S.I., has been appointed Medical Officer and Public Vaccinator for District No. 3 of the Abingdon Union, vice Barrett, resigned.

DAVIDSON, D. C., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Assistant House-Surgeon to the Birkenhead Borough Hospital, vice Prigg.

DAVIES, J., M.B., C.M., has been appointed Medical Officer for the Llangonoyd District of the Neath Union.

DAVIES, J. H., M.R.C.S.E., has been appointed Medical Officer for the first Eastern District of the Neath Union.

DIXON, H., M.R.C.S.E., has been appointed a Medical Officer to the new Cottage Infirmary at Watlington.

FLEMING, A., M.D., F.R.C.P.L., has been appointed Consulting Physician to the Queen's Hospital, Birmingham, on resigning as Physician.

FOSTER, R. H., M.R.C.S.E., has been appointed House-Surgeon to the Brighton and Hove Lying-in Institution and Hospital and Dispensary for Women and Children, vice Smith, resigned.

GRAY, C. F., M.R.C.S.E., has been appointed Medical Officer for District No. 1, Newmarket Union, vice Fyson, resigned.

GRUBB, J. S., L.R.C.S.I., L.R.C.P.Ed., has been appointed Medical Officer and Public Vaccinator for District No. 4 of the Chesterton Union, vice Molony, resigned.

HARRISON, J. A., M.D., has been appointed Medical Officer of Health for the Rural Sanitary District of the Haslingden Union: £250 per annum.

HEILING, H. E., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed a Medical Officer to the Bristol Dispensary.

JAMES, J. R., M.R.C.S.E., has been appointed Medical Officer for the second Eastern District of the Neath Union.

JONES, J. T., M.R.C.S.E., has been appointed Medical Officer for the Tallylyn District of the Dolgelly Union.

JONES, T., M.B., M.R.C.S.E., has been appointed Pathological Registrar to the Royal Infirmary, Manchester.

KANE, F. R., M.D., has been appointed a Surgeon to the Jervis-street Charitable Infirmary, Dublin, vice Walshe, resigned.

LAKIN, C., L.R.C.P., L.M., has been appointed Medical Referee to the United Assurance Society at Leicester.

LEIGH, R., M.R.C.S.E., has been appointed an Hon. Medical Officer to the North Dispensary, Liverpool, vice Maher.

MACKLEY, W. R., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the newly formed Wilsden District of the North Bierley Union.

MAHER, N., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed an Hon. Medical Officer to the South Dispensary, Liverpool, vice Cregeen, resigned.

MANNING, J., M.R.C.S.E., has been appointed Medical Officer for District No. 1 of the East Ashford Union, vice Brook, resigned.

MIDDLETON, J., M.B., C.M., has been appointed Medical Officer and Public Vaccinator for the Parishes of Contin and Fodderty, Ross-shire.

MURDOCH, R., M.B., C.M., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Medical Officer and Public Vaccinator for the Ilsley District of the Wantage Union, vice Robinson, resigned.

NEWTON, C. J., M.R.C.S.E., has been appointed Medical Officer for District No. 3 of the Cheltenham Union, vice Digby, deceased.

NICOLSON, D., M.B., C.M., Assistant-Surgeon H.M.'s Prison, Millbank, has been promoted to Medical Officer H.M.'s Convict Prison, Portsmouth, vice Wilson.

SHAW, Dr. R., has been appointed a Demonstrator of Anatomy at the Catholic University, Dublin.

STERLING, H. H. J., M.R.C.S.E., has been appointed Medical Officer for the Overmoigne District of the Weymouth Union, vice Granger.

SYMES, E. W., M.B., M.R.C.S.E., has been appointed Medical Officer of Health for the Skipton and Settle Rural and Urban Sanitary Districts in the West Riding of Yorkshire.

TANDY, B. L., L.R.C.S.I., L.R.C.P.Ed., has been appointed House-Surgeon to the Birkenhead Borough Hospital, vice Vacher.

Births, Marriages, and Deaths.

BIRTHS.

BAIRD.—On the 3rd inst., at West-street, Congleton, the wife of James T. W. Baird, M.B., C.M., of a daughter.

GRIFFITH.—On the 5th inst., the wife of Samuel Griffith, M.D., of Portmadoc, North Wales, of a son.

LUBBOCK.—On the 3rd inst., at Foulis-terrace, Onslow-square, the wife of M. Lubbock, F.R.C.S., L.R.C.P., of a daughter.

M'KENZIE.—On the 6th inst., at Albert-terrace, Batley, Yorks, the wife of Lawrence S. M'Kenzie, L.R.C.P.Ed., L.R.C.S.Ed., of a daughter.

MORRIS.—On the 7th inst., at Euston-place, Leamington, the wife of Joseph Morris, Surgeon, of a daughter.

SATCHELL.—On the 1st inst., at Argyll-road, Kensington, the wife of Walter A. Satchell, L.R.C.P.Ed., L.M., M.R.C.S.E., L.S.A.L., &c., of a daughter.

SINCLAIR.—On the 28th of Aug., at Secunderabad, Deccan, the wife of E. M. Sinclair, M.D., Staff Surgeon Royal Artillery, of a daughter.

MARRIAGES.

BARTLET—ROSE.—On the 1st inst., at St. George's, Bloomsbury, Alexander Edward Bartlet, M.R.C.S.E., Surgeon Royal Artillery, to Alice Harriet, daughter of the late Thomas Rose, Esq.

HEFFERNAN—FLECK.—On the 2nd inst., at Stanley, near Wakefield, Edward Heffernan, L.R.C.P.Ed., L.R.C.S.Ed., of Spennymoor, Durham, to Jane Eliza, only surviving daughter of James T. Fleck, Esq., of Stanley Lodge.

SPOONER—CASSWELL.—On the 4th inst., at North Ormsby, Louth, Lincolnshire, Edward Monro Spooner, M.R.C.S.E., of Blandford, Dorset, to Elizabeth, youngest daughter of the late Thomas Casswell, Esq., of Pointon, Lincolnshire.

DEATHS.

CARTER.—On the 8th inst., at Wimpole-street, after a few days' illness, Francis Rodney Becher, the beloved son of Robert Brudenell Carter, F.R.C.S.E., aged 12.

COCHRANE.—At Tirphil, Wm. B. Cochrane, M.R.C.S.E., Assistant-Surgeon at the Powell Duffryn Colliery, aged 25.

CRAVEN.—At the Salisbury Hotel, London, John Craven, M.R.C.S.E., of Dockroyd, near Keighley, aged 46.

FORREST.—On the 29th of July, at Nagasaki, Japan, J. N. Forrest, M.D., formerly of Elie, Fifeshire.

GAWLEY.—On the 26th ult., Eccles Gawley, M.D., of Foxford, Co. Mayo, aged 65.

GODWIN.—On the 3rd inst., at Twyford, near Winchester, James Godwin, M.R.C.S.E., L.S.A.L., aged 42.

LEDSAM.—On the 2nd inst., J. J. Ledsam, M.D., of Scarborough, aged 74.

LYON.—On the 5th inst., Gilbert Lyon, M.D., of Clifton, aged 70.

MICHELL.—On the 30th ult., at Launceston, Wm. D. Michell, M.R.C.S.E., late of Old Cavendish-street.

Notes, Short Comments, and Answers to Correspondents.

CAVE-DWELLERS IN LONDON.

THE accuracy of a statement which appears in a recent report of the medical officer of St. Giles's, to the effect that to his knowledge not a single underground room in the district is now illegally occupied, is called in question by a writer in the *Daily Telegraph*, who describes from personal observation the appalling condition of a domestic group inhabiting a cellar in a street in the far-famed Milesian colony. He concludes by averring that "To-day, as yesterday, are to be seen in Dudley-street, Seven Dials, thirty deep black cellars, reached through a gap in the pavement, and by means of a steep ladder, and in each, at a greater depth in the earth than the sewers and the nests of the sewer rats, families of human beings—fathers, mothers, and little children—live, and eat and drink, and make themselves at home." Sanitary reformers have need of patience. But one element of hopefulness in cases as depressing even as the above is the fact of the gradual awakening of vestries and corporations to the pecuniary disadvantage of allowing such moral and physical plague-spots to remain in their midst, as nurseries of crime and foci of disease—a brace of the hungriest rate-devouring monsters that afflict modern civilisation.

A Volunteer Surgeon.—Medical officers of metropolitan corps attend the members of the staff gratuitously, and, so far as we know, the question of remuneration has not been renewed. The fees, as laid down in the Order referred to, are certainly not accepted "for services rendered," but may in some instances be drawn by the commanding officers for the benefit of the friends of the corps; nor is there anything objectionable in such a proceeding.

Inquisitor.—Both Berlin and Vienna are splendid schools. Six months at each, after acquiring the rudiments of German, would be the best method in which our correspondent could spend his time.

Mr. E. Astley.—We never recommend a particular physician.

A SUGGESTION.

To the Editor of THE LANCET.

SIR,—May I crave a corner of your journal for an idea suggested by the continued freedom of two dangerous lunatics. It is that in every case of a murderer being "confined during Her Majesty's pleasure" he should bear upon his person some prominent sign of his violent character; not alone as a safeguard to the general public in the event of his breaking loose, but as a protection also to those with whom he is brought into daily contact—the patients, the keepers, the usual medical staff, or the visiting commissioner.

Tattooing is a comparatively painless operation; it is inflicted every day upon our deserters. A mark, say the initial of his surname, tattooed on the forehead of a murderer would be an ever-present warning to those around him, and, should he escape, expedite his arrest. To objection on the score of cruelty in thus branding a man for life, it may be as well to bear in mind where that life is condemned to be spent, and that under any circumstances such a man's antecedents will be known amongst those with whom he is placed. An insane man will probably have committed the act in obedience to his insane delusion, and will hardly regard the symbol as one of degradation; if, indeed, immersed in morbid fancies, he is not wholly callous to it. A sane murderer's feelings would be sacrificed; but they would be sacrificed to the general safety, and to some reparation of his guilt. It is even possible that the dread of having their crime indelibly printed on their brow might deter some who meditate the commission of a murder, the want of motive for which, or its extreme cunning and ferocity, would offer the strongest claim that they should be "let off on the plea of insanity."

I am aware that I offer my idea in a very crude form; but if you deem it worthy of space, the fact of your doing so may induce some one more competent to develop it into usefulness.

I am, Sir, yours obediently,

October, 1873. N. G.

In Statu Pupillari, (Norwood.)—At Cambridge the Linacre Lecturer on Medicine (Dr. Bradbury) lectures in the present term on the Pathology of the Respiratory, Digestive, and Absorbent Apparatus every Tuesday at 10 A.M., commencing on October 14th. The fee for the course, extending over three terms, is three guineas.

Sanitarian.—The city of Salisbury exhibits perhaps the best instance of the truth of Mr. Disraeli's adage—"Sanitas sanitatum, omnia sanitas." Twenty years ago its average death-rate was over 26 per 1000. With a perfect system of drainage and water-supply and proper sanitary supervision, the mortality for the present quarter was only 27 per 1000, or about 10 per 1000 per annum.

Iota.—We are not in the habit of either receiving or answering anonymous communications.

H. M.—The Local Government Board, as a rule, due reasons being shown, sanction appointments of the kind referred to by our correspondent. If the directors making the appointment and the Local Government Board are in accord, there is, we believe, no appeal.

A Puzzled Practitioner.—Balzac. His words are: "Il n'y a rien de moins connu que ce que tout le monde doit savoir, la Loi?"—words peculiarly applicable to all previous attempts at sanitary legislation.

Junior should bring the advertisement under the notice of the College of Surgeons. It is very bad.

PROSTITUTION IN JAPAN.

JAPAN has many "soiled doves"; and, among the social reforms of last year, it has freed them from the obligation of their contracts, to which in many cases, according to the last consular report, they "had never been willing parties." The uncaging, however, has been effected without due regard to consequences, and their escape from the brothel-keepers and subsequent flight through the settlements has converted them into "carrier-pigeons" of a very dangerous breed, distributing disease right and left among natives and foreigners. Thanks to Staff-Surgeon Hill, R.N., in charge of the Lock Hospital at Kanagawa, whose post would have declined into a sinecure from the hasty action of the authorities, street prostitution has been suppressed, and the majority of the women gradually disbanded and sent to their homes either in the neighbourhood of Yokohama or at a distance from it. Under the new system each woman pays a licence fee of three dollars a month to the local Government; but Dr. Hill views with regret the action of the authorities in compelling the women to pay their own Lock Hospital expenses. The Consul at Kanagawa is in hopes that a portion at least of the revenue thus derived, which is likely to amount to some 30,000 or 40,000 dollars per annum, may be applied to the relief of the unfortunate class.

J. R.—The first gentleman who arrived should be summoned by the coroner. But as neither practitioner in this case was present before death, and the jury do not appear to have wished for more medical evidence than was given, we think our correspondent has no remedy at law, though his dissatisfaction is just. He should state his case to the coroner, that such conduct may be avoided in future.

THE communication of *Dr. D. B. Cursino* shall receive consideration next week.

THE POLLEN THEORY OF HAY FEVER.

To the Editor of THE LANCET.

SIR,—I crave your kind indulgence whilst replying to Mr. Blackley's letter in THE LANCET of Sept. 20th, in which he says that I complain of his having claimed to be the originator of the pollen-grain theory of hay fever, and which he wished me to understand he has never claimed either in his book or through your reviewer.

Now, in the third line of the review the treatise is spoken of as "a piece of honest work, *original* and instructive"; and Mr. Blackley in his letter states, "I make no claims on my own behalf further than what seem to flow naturally from the course of investigation followed." Now if Dr. Elliotson stated thirty years ago that pollen-grains were *the* cause of hay fever, where is the originality claimed by the reviewer on Mr. Blackley's behalf? And, further, as the pollen-grain theory seems to flow naturally from Mr. Blackley's experiments, then he claims to be the originator of that theory. If the pollen theory does not flow naturally from the experiments made by him, then his treatise is far from being original. But as Mr. Blackley has found in pollen all those essentials necessary to the production of hay fever, then the theory flows naturally as a sequence, and Mr. Blackley consequently claims it as his own. With regard to the claim I made as to priority, my paper was written in the spring and summer of 1870, and read before the Society in the winter of that year. Mr. Blackley has been ten years accumulating information and experimenting, but does not make anything public till 1873. As I was the first to publish, surely I am prior to a man who, though possessed of information, withholds it, and does not publish his ideas till three years after. Take the case of patents. Who is considered by law to be the inventor—the man who deposits a preliminary specification at the Patent Office in 1870, or another man who, though occupied for ten years previously in investigation, does not deposit his specification until 1873? If Mr. Blackley will read the extract from my Notes on Aconite again, he will find that I gave the *modus operandi* of the pollen-grain, or what I called in my first letter, the true *rationale* of hay fever. I did not claim to be the discoverer of the fact that pollen was the cause of hay faver, but to have explained the mode by which the pollen acted and produced the fever.

Now, Sir, if you will kindly allow me to trespass upon your space, I will briefly state my own views on the causation of hay fever. It is well known that pollen has been suspected as the principal agent in the production of this extraordinary malady. Now it is proved that pollen does produce the symptoms of hay fever when introduced into the body under favourable conditions. The conditions are heat, moisture, and absence of light, the three conditions generally found connected with plants which are undergoing or about to undergo fertilisation—the weather warm, the stigma moist, and the pollen-tube forcing its way through the cellular interspaces of the stigma and style in comparative darkness. The majority of opinions are decidedly in favour of the view that the pollen-tube formed by the delicate intine membrane passes down through the cellular interspaces of the pistil to the ovary, where in some fashion not as yet understood the fovilla acts upon the contents of the ovary, and the seed results. Now, if this be true, each plant that has a long pistil must require pollen-grains, the intine of which or whatever it may be that forms the pollen-tube, must be capable of great extension, and possess the power of travelling, as in some of the lillies, a distance of two or three inches. One can then easily imagine that pollen which can produce tubes of such a length are capable of producing a very serious form of irritation when pushing their tubes forward over a delicate and sensitive mucous membrane, to say nothing about the irritation caused by the presence of the finely divided granular fovilla which is propelled when the tube bursts. Pollen-tubes are supposed to be formed by every kind of pollen, and it is but a question of the length of tube produced. A pollen-grain necessary to the fertilisation of a plant having a long pistil *is* required to have a power of producing a long pollen-tube; a plant possessing a short pistil, or scarcely any at all, requiring a very short pollen-tube, or none at all. I take it for granted that the pollen-tube in its ramifications over the surface of the mucous membrane of the respiratory tract has the power of pushing into the underlying cellular planes, they being much more easily penetrated than the vegetable structure of the pistil; and being there they are foreign bodies, and are treated as such by the body. The granular contents of the tube are not such formidable foreign bodies as the tubes; yet when a tube has penetrated into the substance or between the edges of the epithelium lining the tract, and the fovilla is discharged at the end of the tube, of course the irritation previously set up by the presence of the tube becomes augmented. The spores of fungi generate a mycelium when placed in a warm, moist, dark place, such as a bronchus, and would therefore act similarly to a pollen-tube. Instances may be found, such as the muscardine of the silk-worm, the white deposit which surrounds the dead house-fly on the window, and the disease which attacks certain West Indian insects, who fly about with a growing fungus nearly as large as themselves (Carpenter). The spores have entered the breathing pores of the insect, have found a proper nidus in the trachea, produced their mycelia, filaments, and fruit, of course to the utter destruction of the insect. The difference between the result of a pollen-grain and the spores of fungi is, that when the pollen-tube has discharged the fovilla it has done its worst; but the filaments of fungi arising from the action of spores may go on to fructification, in fact to the reproduction of itself, thus causing still further and more alarming symptoms. Now comes the great question of predisposition or idiosyncrasy. Why should one person be affected, and his neighbour who is placed in the midst of the same surroundings escape? Upon this subject I have but one belief, and it is briefly this. Mental culture is attained at the expense of the body, and this altered condition of body can be transmitted to the progeny together with the improved mental power of the parent, so that a deficiency exists in some portion of the frame with an exalted condition of the mental faculties. These mental faculties may in the progeny be still further cultured, and the body proportionately degraded; this condition of things may be again transmitted, producing a progeny whose bodily degradation consists in a partial or thorough absence of some one normal constituent of the body. I believe this to be the case in persons who suffer from hay fever, and the normal constituent which I believe to be absent in them is the protective cilia which lines the respiratory passages. This belief is strengthened by the fact that the conjunctiva, which suffers severely in hay fever, is only covered by a tesselated or pavement epithelium; yet the eye is not destitute of ciliary protection if the eyelashes are normally developed. The normal respiratory tract is covered with ciliated epithelium, the cilia of which protect the delicate mucous surfaces from the numberless foreign bodies which are ever present in the atmosphere, and inhaled at every inspiration. If the foreign body is heavier than the cilia by their united efforts can get rid of, it sinks deeper into the tissues, and then we probably may get some one of the various forms of phthisis, say that of needle-grinders; but if the cilia are able to move it or sustain its weight, the underlying mucus rises up, entangles the foreign body, and it is got rid of by expectoration. This is the normal condition. But if we allow the congenital absence of the protective cilia, then even so small, delicate, and light a particle as a pollen-grain, or the spore of some microscopic fungus, can produce severe forms of irritation in the mucous membranes and cellular planes. No doubt that some day this will be found to be the reason why some people suffer so much more than others from certain odours. I should be glad to know from Mr. Blackley whether he has noticed any congenital deficiency of hairs or cilia in any of those patients who have come under his notice suffering from hay fever, or too keen an appreciation of odours. Take the nostrils, eyelashes, eyebrows, scalp, upper lip, &c. One or two men whom I know to suffer severely from odours, which are even pleasant to others, are deficient to a large extent of capillary protection, but are also notable for their well-endowed minds. Possibly the absence of the protective cilia in the nose may be the reason why some women faint so persistently when some one particular odour is introduced to their olfactory nerves, the expansion of the nerve being too thinly clad with epithelium of the right kind, and thus receiving the full force of the odour at once. I am sure that science is much indebted for the true sacrificial spirit of inquiry that Mr. Blackley has shown in the experiments he has conducted, and I for one rejoice at that benevolence which turns its own misfortunes into benefits for others. At the present moment I cannot remember the authors who make the statement about the pollen of aconite; but in the second edition of the "Flora Historica," by Henry Phillips, F.H.S., 1829, vol. ii., page 124, occurs the following passage: "Since we find that some persons, only by taking in the effluvia of the herb (aconite) in full flower by the nostrils, have been seized with swooning fits, and have lost their sight for two or three days." I will furnish the names for Mr. Blackley at the earliest opportunity.

I am, Sir, your obedient servant,

WM. WRIGHT WILSON, M.R.C.S. Eng.

Birmingham, October 6th, 1873.

*** Our correspondent cannot do better than to read carefully Mr. Blackley's excellent treatise. He will find the tone of it singularly modest, and no where does the author attempt to arrogate to himself the origination of the pollen theory. Nevertheless, Mr. Blackley's method of investigating the subject is singularly original. This correspondence must cease here.—ED. L.

Mr. Thomas Hopgood.—If any misuse is made of our expressions, we shall be obliged to Mr. Hopgood if he will kindly report the same to us. Our statements, though perhaps a little too unqualified, are not inconsistent with the explanations kindly given us by our correspondent.

The Substitute.—The question detailed in our correspondent's letter does not materially affect the question between the guardians and Dr. Purcell. We think it undesirable to complicate the main dispute with a collateral one.

Juris Consult (Hull) cannot do better than peruse Dr. David Page's prize thesis on the Value of certain Signs observed in Cases of Death from Suffocation. It is published by the Blackwoods, London and Edinburgh, and may be had for a small sum.

Mr. Henry Wagstaff.—Variola in the mother does not render the child incapable of receiving vaccinia. In the present case the children seem to inherit from their mother insensitiveness to vaccination. Vaccination is often seen to take very sharply in those who have formerly been inoculated.

A Union Medical Officer.—The superannuation allowances are made subject to the condition of a certain length of service—twenty years,—and the attainment by the medical officer of the full age of sixty years.

Mr. Robert Pitman is thanked for his communication. He will easily see that the cases discussed in the article are not "perfectly analogous"; consequently, and, further, as the article is rude in its style, we shall not give importance to it by noticing it.

THE request of *Mr. Pondicherry Subapathy Mootoosawmy* (Bengal) shall be attended to.

THE ANATOMY ACT.

Prosector, (Dublin.)—*No*; it was to "Mr. Orator Hunt" that Macaulay made his crushing reply in support of Mr. Warburton's Anatomy Bill in the House of Commons, Feb. 27th, 1832. Hunt's contention was that the Bill would benefit the rich at the expense of the poor. Macaulay showed that it was in the interest of the poor that surgical education should be as easily and thoroughly acquired as possible. "Does," he asked, "the hon. gentleman know from what cruel sufferings the improvement of surgical science has rescued our species? I will tell him one story, the first that comes into my head. He may have heard of Leopold, Duke of Austria, the same who imprisoned Richard Cœur de Lion. Leopold's horse fell under him, and crushed his leg. The surgeon said that the limb must be amputated; but none of them knew how to amputate it. Leopold in his agony laid a hatchet on his thigh, and ordered his servant to strike with a mallet. The leg was cut off, and the Duke died of the gush of blood. Such was the end of that powerful Prince. Why, there is not now a bricklayer who falls from a ladder in England who cannot obtain surgical assistance infinitely superior to that which the Sovereign of Austria could command in the twelfth century. I think this a Bill which tends to the good of the people, and which tends especially to the good of the poor."

Mr. Herbert P. Taylor (New Cross) is recommended to read Dr. de Rochlitz on Sea-sickness (reviewed, THE LANCET, July 13th, 1872), published by Longmans, 1872; and Dr. C. J. Waring's little Manual addressed to Anglo-Indians (Churchill, 1870).

THE PRESCRIPTION OF UNUSUAL DOSES.

To the Editor of THE LANCET.

SIR,—Everyone will agree that if any improvement is necessary in the ordering of extraordinary doses of poisonous drugs, the plan of writing the initials of the prescriber opposite an unusual dose is exceedingly simple, and likely to be beneficial. It will at any rate show the dispenser that the order is deliberate, and not a slip of the pen, but made in full consciousness and acceptance of the responsibility incurred. But will you allow me to suggest that a slight improvement in the penmanship of our medical brethren is quite as desirable. Everyone has seen prescriptions which few but a blind clerk could read. There is some excuse for one written on a bit of coarse paper, the physician's hat being the only table available; but there is none for one which has been written quietly in the study; and yet some of our most shining lights think that illegible handwriting has as much to do with their greatness as anything else. I saw a prescription the other day written by a gentleman who had been ordering very large doses of opium. He indeed adopted the laudable custom of affixing his initials to the dose; but the effect was considerably marred by the fact that the initials were so like an indefinite number of grains (iiiiij) that they were more puzzling than that which they were intended to clear up.

I am, Sir, your obedient servant,

October 6th, 1873. F.R.C.S. Ed.

COMMUNICATIONS, LETTERS, &c., have been received from—Sir James Paget, London; Mr. W. Sedgwick, London; Dr. Mackintosh, Chesterfield; Mr. Ashenden, Hastings; Dr. Guenther, Dresden; Dr. Cavania, Leeds; Dr. Griffith, Portmadoc; Mr. Wood, Ashton; Mr. R. Murdoch, Newbury; Mr. Richards, Old Brentford; Mr. M'Kenzie, Batley; Mr. W. Austin, Rochford; Mr. Cartie, Douglas; Mr. Horne, Harborough; Mr. R. Green, Whetstone; Dr. Harrison, Haslingden; Mr. Middleton, Strathpepper; Mr. Leonard, Dudley; Dr. Anderson, Newry; Mr. Maynard, Wisbeach; Dr. Gamgee, Manchester; Mr. Parkinson, Brotton; Mr. Grove, London; Mr. Thurman, Lowestoft; Dr. Bramwell, North Shields; Mr. Hansford, Towcester; Mr. Cater, Bridgnorth; Mr. Thorne, Kimbolton; Mr. Roche, Ipswich; Mr. Evans, Bridport; Mr. Boyd, Newcastle; Mr. Taylor, Leeds; Dr. Cotterell, Invercargill, Otago; Mr. Lawford, Bath; Mr. Haviland, Northampton; Mr. Johns, Lichfield; Mr. Knapp, Olney; Mr. Whidborne, Devonport; Mr. Graham, Lewes; Mr. Wardell, Oldham; Mr. Thompson, Warwick; Mr. W. Ingram, Portsmouth; Mr. T. Hopgood, Sunderland; Mr. C. Lakin, Leicester; Mr. Easton, Barnsley; Mr. R. Dale, Canterbury; Dr. Fryer, Openshaw; Mr. Wright, Glasgow; Mr. J. Dawson, Wakefield; Mr. D. Nicolson, Portsea; Mr. T. Ward, Stoke; Mr. R. Williams, Bala; Dr. Haydon, Newton Abbott; Mr. O'Connor, Limerick; Mr. Thomson, Bournemouth; Mr. Kilner, Bury St. Edmunds; Mr. Langford, Bournemouth; Messrs. Stuart and Co., London; Mr. S. Woodburn, Hastings; Dr. Dougall, Glasgow; Mr. Fournier, London; Mr. Hylton; Mr. Brown, Ealing; Mr. Burgoyne, London; Dr. Eaton, Liverpool; Mr. Wagstaff, London; Dr. Omsfield, Thetford; Mr. Cowell, London; Mr. Griffiths, Dublin; Messrs. Sillar and Co., London; Dr. Lilliefeld, Graaff Reinet; Mr. Gourley, Sydenham; Dr. Redwood, Rhymney; Dr. Walters, Reigate; Dr. Heffernan, Ferryhill; Mr. Rowland, Faversham; Mr. Pitman, Highgate; Mr. Wilson, Chichester; Mr. Edgentow, Cambridge; Mr. Wilson, Birmingham; Mr. Kendrick, London; Mr. Blackford, Frome; Mr. Baird, Congleton; Mr. Blakeford, Frome; Mr. Feldmann, Dalston; Mr. James, Woodford; Mr. Burdett, Birmingham; Mr. Wallace, Balloch; Dr. Evans, Glastonbury; Mr. Carter, Devizes; Mr. Smith, Twyford; Mr. P. Dawkins, Hampton; Mr. Barns, Derby; Mr. Roberts, Hungerford; Mr. H. Arling, Ipswich; Mr. Atthill, London; Mr. Lilly, Huntingdon; Mr. Fowler, Sydenham; Mr. Milner, Newport; Mr. Wyatt, Bala; Mr. Williams, Cardiff; Dr. Peard, North Shields; Mr. Long, Manchester; Dairy Reform Company; A Subscriber; The Secretary of the Faculty of Physicians, Glasgow; A Surgeon and a Sportsman; F.R.C.S. Ed.; One in a Fix; Inquisitor; M.D.; Justitia; Physician; &c. &c.

Quarterly Journal of Microscopical Science, Newcastle Daily Chronicle, Kentish Mercury, Wisbeach Chronicle, Melbourne Age, Manchester City News, Barrow Daily Times, Croydon Chronicle, Sunderland Herald, and *Weekly Hampshire Independent* have been received.

METEOROLOGICAL READINGS

(Taken by Steward's Instruments).

THE LANCET OFFICE, OCT. 9TH, 1873.

Date.		Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Wet Bulb.	Dry Bulb	Solar Radia. in Vacuo	Max. Temp. Shade	Min. Temp.	Rain-fall.	Remarks at 8 A.M.
Oct.	3	29·94	S.W.	61	63	88	73	55	0·01	Overcast
"	4	29·92	W.	58	61	70	62	53	...	Overcast
"	6	30·12	W.	49	50	88	63	45	...	Fine
"	7	29·74	S.W.	56	58	66	60	48	0·44	Overcast
"	8	29·76	N.W.	44	45	62	51	41	0·01	Rain
"	9	29·94	N.W.	39	40	...	...	35	...	Fine

Medical Diary of the Week.

Monday, Oct. 13.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations on the Eye, 1½ P.M.
ST. MARK'S HOSPITAL.—Operations, 9 A.M. and 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ST. PETER'S HOSPITAL.—3 P.M. Expected Operation: Lithotrity.

Tuesday, Oct. 14.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL MEDICAL AND CHIRURGICAL SOCIETY. — 8½ P.M. Mr. Henry Lee, "On Imperfect Development of the Circular Fibres of the Rectum and Vagina." — Mr. Spencer Watson, "On Acute Inflammation of the Vitreous Humour of both Eyes."

Wednesday, Oct. 15.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
CANCER HOSPITAL.—Operations, 3 P.M.

Thursday, Oct. 16.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
HARVEIAN SOCIETY OF LONDON. — 8 P.M. Dr. A. Meadows, "On Pelvic Hæmatocele."

Friday, Oct. 17.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
MEDICAL MICROSCOPICAL SOCIETY.—8 P.M. Conversazione at the Residence of the President, 1, Bedford-square, W.C.

Saturday, Oct. 18.

HOSPITAL FOR WOMEN, Soho-square.—Operations, 9½ A.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 1½ P.M.
ROYAL FREE HOSPITAL.—Operations, 9 A.M. and 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

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